

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

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IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 07/08/2020		2. CONTRACT NO. (If any) 68HERC19D0011		6. SHIP TO: a. NAME OF CONSIGNEE Office of Research and Development	
3. ORDER NO. 68HERC20F0328		4. REQUISITION/REFERENCE NO. PR-ORD-20-00920			
5. ISSUING OFFICE (Address correspondence to) CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency 1200 Pennsylvania Avenue, NW MC: 8101R	
				c. CITY Washington	e. ZIP CODE 20460
7. TO: JAMES BURKE a. NAME OF CONTRACTOR National Academy of Sciences b. COMPANY NAME				f. SHIP VIA	
c. STREET ADDRESS 500 FIFTH STREET NW				8. TYPE OF ORDER <input type="checkbox"/> a. PURCHASE REFERENCE YOUR:   Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
d. CITY WASHINGTON				e. STATE DC	
f. ZIP CODE 200012736				b. DELIVERY Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE Office of Research and Development	

11. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB				12. F.O.B. POINT	
13. PLACE OF a. INSPECTION Destination		b. ACCEPTANCE Destination		14. GOVERNMENT B/L NO.	
				15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 07/07/2021	
				16. DISCOUNT TERMS	

## 17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 041964057 TOCOR: ROBIN CLARKE  Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						\$943,373.00
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						\$943,373.00
c. CITY Durham				d. STATE NC	e. ZIP CODE 27711		17(i) GRAND TOTAL

22. UNITED STATES OF AMERICA BY (Signature) 07/08/2020

23. NAME (Typed)  
William M. Yates  
TITLE: CONTRACTING/ORDERING OFFICER

ELECTRONIC  
SIGNATURE

## ORDER FOR SUPPLIES OR SERVICES

PAGE NO

## SCHEDULE - CONTINUATION

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IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 07/08/2020	CONTRACT NO. 68HERC19D0011	ORDER NO. 68HERC20F0328
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	<p>Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 07/08/2020 to 07/07/2021</p> <p>This is to add additional funding for a new task order under NAS contract 68HERC19D0011 titled "Environmental Impact of Currently of Currently Marketed Sunscreens"</p> <p>Accounting Info: 20-21-C-26RR000-000FK8XPV-2532-26A5C-2 026RRC049-001 BFY: 20 EFY: 21 Fund: C Budget Org: 26RR000 Program (PRC): 000FK8XPV Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026RRC049-001 Funding Flag: Complete Funded: \$80,287.00</p> <p>Accounting Info: 20-21-C-26RR000-000FK9-2532-26A5C-2026 RRC049-002 BFY: 20 EFY: 21 Fund: C Budget Org: 26RR000 Program (PRC): 000FK9 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026RRC049-002 Funding Flag: Complete Funded: \$100,011.09</p> <p>Accounting Info: 20-21-C-26RR000-000FK8XPW-2532-26A5C-2 026RRC049-003 BFY: 20 EFY: 21 Fund: C Budget Org: 26RR000 Program (PRC): 000FK8XPW Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026RRC049-003 Funding Flag: Complete Funded: \$700,000.00</p> <p>Accounting Info: 20-21-C-26RR000-000F84-2532-26A5C-2026 RRC049-004 BFY: 20 EFY: 21 Fund: C Budget Org: 26RR000 Program (PRC): 000F84 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026RRC049-004 Funding Flag: Complete Funded: \$27,638.00 Continued ...</p>				943,373.00	
TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))					\$943,373.00	



ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION

PAGE NO  
3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER	CONTRACT NO.	ORDER NO.
07/08/2020	68HERC19D0011	68HERC20F0328

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Accounting Info: 20-21-C-26RR000-000FK6XR1-2532-26A5C-2 026RRC049-005 BFY: 20 EFY: 21 Fund: C Budget Org: 26RR000 Program (PRC): 000FK6XR1 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026RRC049-005 Funding Flag: Complete Funded: \$16,075.00 Accounting Info: 20-21-C-26RR000-000FK8XPV-2532-26A5C-2 026RRC049-006 BFY: 20 EFY: 21 Fund: C Budget Org: 26RR000 Program (PRC): 000FK8XPV Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026RRC049-006 Funding Flag: Complete Funded: \$19,361.91					

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

Performance Work Statement  
National Academy of Sciences (NAS)  
Contract #68HERC19D0011  
PR-ORD-20-01105  
Task Order #TBD

**I. TITLE:** Workshop on Federal Government Human Health PFAS Research

**II. Task Order Contracting Officer Representative(s):**

<b>Task Order Contracting Officer Representative (TOCOR)</b> <b>Name:</b> Tia Groves <b>Office:</b> Immediate Office of the Assistant Administrator  <b>1200 Pennsylvania Ave NW</b> <b>Washington, DC 20460</b> <b>Phone:</b> 202-564-5709 <b>Email:</b> groves.tia@epa.gov	<b>Alternate Task Order Contracting Officer Representative (Alt. TOCOR)</b> <b>Name:</b> Robin Clarke <b>Office:</b> Immediate Office of the Assistant Administrator  <b>1200 Pennsylvania Ave NW</b> <b>Washington, DC 20460</b> <b>Phone:</b> 202-564-6493 <b>Email:</b> clarke.robin@epa.gov
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**III. PERIOD OF PERFORMANCE:** Date of Task Order award through 12 months following award. Additional funding for this award will be provided by other Federal Agency partners

**A. Purpose**

The National Academies of Sciences, Engineering, and Medicine shall host a public workshop to allow for the presentation of federal research on Perfluoroalkyl and polyfluoroalkyl substances (PFAS). The NAS shall convene an expert committee to review submissions and presentations related to human health hazard and exposure research areas and provide a Workshop Report (that takes into consideration workshop meeting minutes and submittals) to participating Federal Agencies that outlines crucial research and data gaps and summarizes the views of participants on how to ensure that the Federal research program for PFAS is robust and focused on addressing the highest priority human health concerns.

**B. Background**

Perfluoroalkyl and polyfluoroalkyl substances (PFAS) are a family of diverse fluorinated organic compounds that have been used in firefighting, chrome plating, as lubricants, in medical devices, and to coat and treat surfaces like carpeting, packaging, and cookware. Their manufacture and use have led to widespread distribution and occurrence in the environment. PFAS can be highly mobile and persistent in the environment, making cleanup a challenge. Depending on chemical

structure, PFAS can accumulate at different levels in human, animal, and plant tissue and may be associated with a diverse set of adverse health effects.

Federal Agencies are spending significant resources to better understand PFAS chemistries, sample collection, compound identification and quantification, toxicities (including health effects in humans), fate and transport, occurrence and exposure, environmental removal and degradation, treatment, and evaluation of substitutes. U.S. Federal Agencies conducting research on PFAS include USDA, EPA, DoD, HHS (NIH, NIEHS, ATSDR/CDC, FDA), DOI (USGS), DOT, and DHS.

The scientific and technical input that would be provided by this task order would help to ensure the robustness of Federal research programs in this important area. The NAS is widely viewed as an impartial, knowledgeable, and respected organization, capable of ensuring audience acceptance about products with which it is associated. The NAS is also able to provide ready access to the full range of scientific and technical experts and to thoroughly screen such experts for conflicts of interests. By providing a mechanism to ensure participation with diverse scientific and technical input from experts identified and assembled by the NAS, the Federal Agencies can benefit from collaboration with the NAS.

### **C. Tasks**

#### **Task 1 – Workshop on Federal PFAS Research Related to Human Health**

NAS shall convene a 2-day workshop to discuss the current state of federal research on Perfluoroalkyl and polyfluoroalkyl substances (PFAS) with a focus on human health hazards and human exposure to PFAS.

##### ***Subtask 1.1. – Establish coordination calls with Federal Agencies:***

NAS shall convene a planning meeting(s) with the Federal Agency Task Order Contracting Officer Representative (TOCOR), and all Federal Agencies conducting research on PFAS. Participating Federal Agencies will identify their representative leads. This meeting(s) shall: identify agenda/topic areas and agency leads; discuss the fields of expertise that NAS should consider as necessary to provide input and comment on the federal research agendas; and deliberate any other relevant planning issues. In coordination with the TOCOR, NAS shall convene the first meeting within 2 weeks of the federal agencies identifying their representative leads. The workshop planning committee will make the final decisions about what expertise to include in the workshop.

##### ***Subtask 1.2. – Establish a workshop planning committee:***

NAS shall identify a proposed workshop planning committee of at least 10 subject matter experts who are recognized experts in the field(s) relevant to the request; represent a range of broadly recognized views on the issues identified by Federal Agencies; are available to participate and discuss their individual views at the workshop; are willing to participate in the development of a workshop report; and have been evaluated for conflict of interest in accordance with established NAS procedures. The funding Agencies may provide a list of experts for consideration.

EPA and other agencies will have the opportunity to comment on the provisional committee roster when NAS publishes it for a 20-day comment period. The NAS shall determine who will serve on the committee.

***Subtask 1.3. – Make arrangements for logistical support for each planning committee member and other experts asked to participate in the workshop:***

NAS shall make arrangements for logistical support for the planning committee and other experts to participate in the workshop, which will be held online.

***Subtask 1.4. – Conduct the workshop(s)/meeting(s):***

NAS shall host a 2-day virtual workshop. The workshop shall allow for broad public participation. The workshop shall take place within 120 days of the start of the NAS contract.

***Subtask 1.5 – Develop Workshop Output:***

NAS shall prepare a final report reflecting committee findings on the research topics covered at the workshop. The report shall focus on identifying research gaps that the committee finds would be beneficial in responding to human health concerns related to PFAS. The workshop report, prepared by a rapporteur in accordance with NAS procedures, will also respond to specific questions identified by the federal agencies and provided by the TOCOR. The final report shall be delivered to the TOCOR, Contracting Officer (CO), and Contract Level CO Representative (CL-COR) 75 days following the conclusion of the workshop.

During the workshop, participants, including the planning committee, shall comment and provide input on the robustness of the Agencies' research, focusing on the identification of knowledge or research gaps, in the following areas:

- 1) Human health hazards, including
  - a. Identification and characterization of health effects or bioactivities of interest in human populations.
  - b. Criteria/factors to be considered when addressing a variety of different health effects within the decision-making process (i.e., severity vs. dose).
  - c. Approaches for extrapolating from animal health effects to human health effects.
  - d. Toxicokinetic and toxicodynamic issues related to extrapolating across species. For example, will toxicokinetic research increase understanding related to the default assumption of toxicity increasing in direct relationship with the half-life of PFAS? Will toxicodynamic research increase understanding of cross-species sensitivity for health effects (such as immune, liver, thyroid, reproductive/development effects)?
  - e. Approach(es) for identification and use of PFAS additivity, synergism, or antagonism.
  - f. Defining a class-based approach to characterizing PFAS health effects.
- 2) Human exposures, including
  - a. Approaches for prospective biomonitoring of human populations at greatest risk.
  - b. Identification of exposure sources and potential exposure pathways including the determination of relative source contribution for the different exposure pathways, including airborne fate and transport.

- c. Consideration of potential ecotoxicological and ecotoxicokinetic issues which may impact human exposures, e.g. through agricultural or subsistence food web pathways.

Workshop participants shall not be limited to only these research areas and may comment on other identified research gaps and priorities responding to human health concerns related to PFAS as appropriate. However Federal Agencies would like to ensure these critical research areas are addressed.

## **Task 2 (Optional):**

The EPA may require the NAS host an additional workshop(s), as a result of this effort. In the event an additional workshop(s) is needed, this TO contract (PWS) will be amended.

## **D. COVID Considerations**

The NAS shall conduct all meetings, including the workshop itself, as virtual meetings.

## **E. Deliverables:**

The products of the NAS tasks for this activity are as follows:

- a) Final planning committee list;
- b) Hosting and organization of a public workshop with broad audience attendance; and
- c) Prepublication Workshop Report to be produced and delivered **75** days following the conclusion of the workshop. The report will be a rapporteur-authored proceedings prepared and peer reviewed in accord with NAS procedures. The final (fully formatted) workshop report will be delivered within 120 days following the conclusion of the workshop.

## **F. Oversight**

All interactions concerning charge, scope, expertise, milestone, meetings dates, meeting agendas, and deliverables under this Task Order shall be restricted to the EPA Contracting Officers (CO) and TOCOR.

## **GF. Acceptance**

Administrative acceptance of contract deliverables will be by the EPA TOCOR.

## **H. Acceptance Criteria**

NAS shall prepare and deliver electronic word documents and Prepublication and Final Workshop Report that are technically accurate, complete, timely, grammatically correct, and free of grammatical and spelling errors. These documents and reports shall conform to the specific task, charge, expertise, and deliverables of the Task Order.

## **Participating Federal Agency Contact Information:**

**Federal Agency Research Partners:**

Department of Defense  
Dr. Herbert Nelson  
[herbert.h.nelson10.civ@mail.mil](mailto:herbert.h.nelson10.civ@mail.mil)

US Department of Agriculture  
John Pirchio  
[john.pirchio@usda.gov](mailto:john.pirchio@usda.gov)  
(202) 720-1208 Office

Health and Human Services  
POC TBD

Department of Energy  
POC TBD

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES	
						1      2	
2. AMENDMENT/MODIFICATION NO.		3. EFFECTIVE DATE		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
P00001		See Block 16C		PR-ORD-20-00920			
6. ISSUED BY		CODE		7. ADMINISTERED BY (If other than Item 6)		CODE	
CAD							
CAD							
US Environmental Protection Agency							
26 West Martin Luther King Drive							
Mail Code: W136							
Cincinnati OH 45268-0001							
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(x)			
National Academy of Sciences				9A. AMENDMENT OF SOLICITATION NO.			
Attn: JAMES BURKE							
500 FIFTH STREET NW				9B. DATED (SEE ITEM 11)			
WASHINGTON DC 200012736							
				x			
				10A. MODIFICATION OF CONTRACT/ORDER NO.			
				68HERC19D0011			
				68HERC20F0328			
				10B. DATED (SEE ITEM 13)			
				07/08/2020			
CODE 041964057		FACILITY CODE					
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
See Schedule							
<b>13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>							
CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.						
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).						
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:						
	D. OTHER (Specify type of modification and authority)						
<b>E. IMPORTANT:</b> Contractor <input checked="" type="checkbox"/> is not <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)							
DUNS Number: 041964057							
TOCOR: ROBIN CLARKE Max Expire Date: 01/07/2022							
LIST OF CHANGES:							
Reason for Modification: Other Administrative Action							
Period Of Performance End Date changed from 07-JUL-21 to 07-JAN-22							
Maximum Potential Expiration Date changed to : 01/07/2022							
CHANGES FOR LINE ITEM NUMBER: 1							
End Date changed from 07-JUL-21 to 07-JAN-22							
CHANGES FOR DELIVERY LOCATION: ORD DC							
Delivery Date changed from 07/07/2021 to 01/07/2022							
Continued ...							
Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				William M. Yates			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
				 (Signature of Contracting Officer)		08/25/2020 ELECTRONIC SIGNATURE	
(Signature of person authorized to sign)							

<b>CONTINUATION SHEET</b>	REFERENCE NO. OF DOCUMENT BEING CONTINUED 68HERC19D0011/68HERC20F0328/P00001	PAGE	OF
		2	2

NAME OF OFFEROR OR CONTRACTOR  
National Academy of Sciences

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711 Period of Performance: 07/08/2020 to 01/07/2022				



<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE		PAGE OF PAGES 1 2	
2. AMENDMENT/MODIFICATION NO. P00002		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO.	
5. PROJECT NO. (If applicable)		6. ISSUED BY CAD		7. ADMINISTERED BY (If other than Item 6) CODE	
CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001		8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) National Academy of Sciences Attn: JAMES BURKE 500 FIFTH STREET NW WASHINGTON DC 200012736		9A. AMENDMENT OF SOLICITATION NO. 9B. DATED (SEE ITEM 11)	
CODE 041964057		FACILITY CODE		10A. MODIFICATION OF CONTRACT/ORDER NO. 68HERC19D0011 68HERC20F0328 10B. DATED (SEE ITEM 13) 07/08/2020	

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.  
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor ☒ is not ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

DUNS Number: 041964057

TOCOR: ROBIN CLARKE Max Expire Date: 01/07/2022

The purpose of this modification is to incorporate the attached EPA blanket administrative modification signed by Raoul Scott on July 30, 2020. All other terms and conditions remain unchanged.

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) William M. Yates	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA  ELECTRONIC SIGNATURE (Signature of Contracting Officer)	16C. DATE SIGNED 09/29/2020

Previous edition unusable

NAME OF OFFEROR OR CONTRACTOR  
National Academy of Sciences

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711 Period of Performance: 07/08/2020 to 01/07/2022				

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES	
2. AMENDMENT/MODIFICATION NUMBER		3. EFFECTIVE DATE 08/13/2020		4. REQUISITION/PURCHASE REQUISITION NUMBER		5. PROJECT NUMBER (If applicable)	
6. ISSUED BY Raoul D. Scott, Director OMS/ARM/OAS/Policy, Training and Oversight Division US Environmental Protection Agency, Mail Code 3802R 1200 Pennsylvania Avenue, NW Washington, DC 20004		7. ADMINISTERED BY (If other than Item 6)		CODE			
8. NAME AND ADDRESS OF CONTRACTOR (Number, street, county, State and ZIP Code)  To All EPA Contractors				<input checked="" type="checkbox"/> (X)		9A. AMENDMENT OF SOLICITATION NUMBER	
				<input type="checkbox"/>		9B. DATED (SEE ITEM 11)	
				<input checked="" type="checkbox"/> (X)		10A. MODIFICATION OF CONTRACT/ORDER NUMBER To all EPA Contracts and Orders	
				<input type="checkbox"/>		10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					

### 11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:  
 (a) By completing items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

### 13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NUMBER AS DESCRIBED IN ITEM 14.

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NUMBER IN ITEM 10A.
<input type="checkbox"/>	
<input checked="" type="checkbox"/> (X)	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor ☒ is not ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

This contract/order is being modified in accordance with the applicability instructions in interim FAR Case 2019-009, and FAR 4.2105, requiring contracting officers to include FAR clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

See attached for the full text version of FAR 52.204-25. Contractor Acknowledgment of receipt required.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Raoul D. Scott, Director Policy, Training and Oversight Division	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA  RAOUL SCOTT Digitally signed by RAOUL SCOTT Date: 2020.07.30 11:40:17 -04'00'	16C. DATE SIGNED
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

Previous edition unusable

## **52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.**

As prescribed in 4.2105(b) and in the applicability instructions in interim FAR Case 2019-009, insert the following clause:

### **Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020)**

(a) Definitions. As used in this clause—

*Backhaul* means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

*Covered foreign country* means The People's Republic of China.

*Covered telecommunications equipment or services* means—

(1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);

(2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);

(3) Telecommunications or video surveillance services provided by such entities or using such equipment; or

(4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

*Critical technology* means—

(1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;

(2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-

(i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or

(ii) For reasons relating to regional stability or surreptitious listening;

(3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);

(4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);

(5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or

(6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

*Interconnection arrangements* means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

*Reasonable inquiry* means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

*Roaming* means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

*Substantial or essential component* means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) Prohibition. (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.

(c) *Exceptions.* This clause does not prohibit contractors from providing—

(1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(2) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(d) Reporting requirement.

(1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at <https://dibnet.dod.mil>. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at <https://dibnet.dod.mil>.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause

(i) Within one business day from the date of such identification or notification: the contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial items.

(End of clause)

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>		1. CONTRACT ID CODE		PAGE OF PAGES	
				1 2	
2. AMENDMENT/MODIFICATION NO. P00003		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO.	
6. ISSUED BY CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001		CODE CAD		5. PROJECT NO. (If applicable)	
		7. ADMINISTERED BY (If other than Item 6)		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code) National Academy of Sciences Attn: JAMES BURKE 500 FIFTH STREET NW WASHINGTON DC 200012736		(x)		9A. AMENDMENT OF SOLICITATION NO.	
				9B. DATED (SEE ITEM 11)	
		x		10A. MODIFICATION OF CONTRACT/ORDER NO. 68HERC19D0011 68HERC20F0328	
				10B. DATED (SEE ITEM 13) 07/08/2020	
CODE 041964057		FACILITY CODE			

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.  
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor ☒ is not ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

DUNS Number: 041964057

TOCOR: ROBIN CLARKE Max Expire Date: 01/07/2022

LIST OF CHANGES:

Reason for Modification: The purpose of this administrative modification will be to correct the ending date of the period of performance.

Period of Performance End Date changed from 07-JAN-22 to 07-JUL-22

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) William M. Yates	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA  ELECTRONIC SIGNATURE (Signature of Contracting Officer)	16C. DATE SIGNED 11/20/2020

Previous edition unusable



NAME OF OFFEROR OR CONTRACTOR  
National Academy of Sciences

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711 Period of Performance: 07/08/2020 to 07/07/2022				

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 07/09/2020		2. CONTRACT NO. (If any) 68HERC19D0011		6. SHIP TO:	
3. ORDER NO. 68HERC20F0334		4. REQUISITION/REFERENCE NO. PR-OAR-20-00960		a. NAME OF CONSIGNEE  OAR	
5. ISSUING OFFICE (Address correspondence to) CAD  US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency Office of Radiation and Indoor Air 1200 Pennsylvania Ave, NW	
				c. CITY Washington	e. ZIP CODE 20460
7. TO: JAMES BURKE				f. SHIP VIA	
a. NAME OF CONTRACTOR National Academy of Sciences				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE REFERENCE YOUR:  Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
c. STREET ADDRESS 500 FIFTH STREET NW				<input checked="" type="checkbox"/> b. DELIVERY Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY WASHINGTON		e. STATE DC	f. ZIP CODE 200012736		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE Office of Research and Development	
11. BUSINESS CLASSIFICATION (Check appropriate box(es))					
<input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB					
12. F.O.B. POINT					
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 545 Days After Award	
a. INSPECTION Destination	b. ACCEPTANCE Destination			16. DISCOUNT TERMS	

## 17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 041964057 Incremental New Task Order under NAS Contract #68HERC19D0011, Workshop on the health risks of indoor exposures to PM2.5 and practical mitigation solutions  Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						\$324,845.00
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						\$324,845.00
c. CITY Durham		d. STATE NC	e. ZIP CODE 27711				17(i) GRAND TOTAL

22. UNITED STATES OF

AMERICA BY (Signature)

07/09/2020

ELECTRONIC SIGNATURE

23. NAME (Typed)

William M. Yates

TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 07/09/2020	CONTRACT NO. 68HERC19D0011	ORDER NO. 68HERC20F0334
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	<p>CO: Mark Cranley, CS: William Yates, Contract Specialist Acquisition Division: CAD Exemption Code (5170 Conference Process): ME262600 TOCOR: Alison Clune ALTOCOR: Laura Kolb CL COR: Glennis Reslock ALT CL COR: Jorge Rangel No IT Codes or FITARA necessary 0 Conference Process): ME262600 TOCOR: Alison Clune Max Expire Date: 01/07/2022 Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 07/09/2020 to 01/07/2022</p> <p>New Task Order request under NAS Contract #68HERC19D0011, Workshop on the health risks of indoor exposures to PM2.5 and practical mitigation solutions</p> <p>CO: Mark Cranley, CS: William Yates, Contract Specialist Acquisition Division: CAD Exemption Code (5170 Conference Process): ME262600 TOCOR: Alison Clune ALTOCOR: Laura Kolb CL COR: Glennis Reslock ALT CL COR: Jorge Rangel No IT Codes or FITARA necessary 0 Conference Process): ME262600</p> <p>Accounting Info: 20-21-B-33-000AH5-2505-2033BEE009-001 BFY: 20 EFY: 21 Fund: B Budget Org: 33 Program (PRC): 000AH5 Budget (BOC): 2505 DCN - Line ID: 2033BEE009-001 Funding Flag: Partial Continued ...</p>				324,845.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$324,845.00

ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION

PAGE NO  
3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER  
07/09/2020

CONTRACT NO.  
68HERC19D0011

ORDER NO.  
68HERC20F0334

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Funded: \$324,845.00					

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

## PERFORMANCE WORK STATEMENT

National Academy of Sciences (NAS)

Contract #68HERC190011

PR-OAR-20-00960

Task Order #68HERC20F0334

**I. TITLE:** Workshop on the health risks of indoor exposures to PM<sub>2.5</sub> and practical mitigation solutions

**EAS Short Title:** Workshop indoor particulate matter and practical solutions

### II. Task Order Contracting Officer Representative(s):

<b>Task Order Contracting Officer Representative (TOCOR)</b> <b>Name:</b> Alison Clune <b>Office:</b> OAR/ORIA/IED/CSA William Jefferson Clinton Building - West 1200 Pennsylvania Ave NW Mail Code 6909T; Room 1318G Washington, DC 20460  <b>Phone:</b> 202-343-9874 <b>Email:</b> clune.alison@epa.gov	<b>Alternate Task Order Contracting Officer Representative (Alt. TOCOR)</b> <b>Name:</b> Laura Kolb <b>Office:</b> OAR/ORIA/IED/CSA William Jefferson Clinton Building - West 1200 Pennsylvania Ave NW Mail Code 6909T; Room 1212A Washington, DC 20460  <b>Phone:</b> 202-343-9438 <b>Email:</b> kolb.laura@epa.gov
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**III. PERIOD OF PERFORMANCE:** Date of Task Order award through 18 months following award.

### IV. PURPOSE OF TASK ORDER

The purpose of this task order (TO) is to conduct a public workshop organized by a committee of scientific experts and leaders convened by the National Academy of Sciences, Engineering, and Medicine (NASEM) to synthesize the state-of the-science on the health impacts of indoor fine particulate matter (PM<sub>2.5</sub>) and evaluate engineering solutions and interventions to reduce risks of exposure to PM<sub>2.5</sub> indoors.

### V. BACKGROUND

Particles dominate the health impact of air pollution and can originate from both indoor and outdoor sources. Particle pollution generated outdoors can infiltrate into indoor environments and add to particle levels from indoor activities such as cooking and cleaning. Because people

spend about 90% of their time indoors, most of the exposure to PM<sub>2.5</sub> from both indoor and outdoor sources takes place in indoor environments.

The mission of EPA's Office of Radiation and Indoor Air (ORIA) within the Office of Air and Radiation (OAR) is to protect the public and the environment from radiation and indoor air pollution. This consensus report will strongly support ORIA's efforts to build a solid scientific foundation on priority areas related to indoor air quality (IAQ) including indoor PM<sub>2.5</sub>. ORIA expects to use the report to communicate the importance of indoor exposure to PM<sub>2.5</sub> and develop new and revised guidance on engineering and behavioral solutions to reduce exposure. The consensus report will support ORIA's partnerships and outreach through states, tribes, local governments, non-governmental organizations, industry and communities seeking to provide scientifically credible messaging on indoor PM<sub>2.5</sub> and practical mitigation solutions.

In 2016, ORIA commissioned the NASEM to convene a workshop on the health risks of indoor exposures to PM<sub>2.5</sub>, risk management approaches and further research needs. Experts at the workshop presented evidence that demonstrated that indoor exposure to PM<sub>2.5</sub> is a serious public health issue, and the resulting report summarized the proceedings. Since the workshop, EPA, the research community, and IAQ-related industries have made substantial progress in this area including revised EPA guidance on residential air cleaners and filters, analyses on the impact of indoor-generated PM<sub>2.5</sub>, and the wide adoption of sensor-based technology to detect PM<sub>2.5</sub>. This work will build on that effort. At this stage, a more targeted, independent and authoritative analysis from NASEM will provide the basis for credible communication of risk and known countermeasures, and support for academic and business innovation in mitigating risk.

## **VI. SCOPE OF WORK**

The NASEM shall convene a committee of scientific experts to conduct a workshop on the state-of-the-science on the health impacts of exposure PM<sub>2.5</sub> indoors and engineering solutions and interventions to reduce risks of exposure to PM<sub>2.5</sub> indoors, including practical mitigation solutions to reduce exposure in residential settings. Specifically, the committee shall focus on:

- Synthesizing and summarizing recent scientific literature to assess the health impacts of indoor exposure to PM<sub>2.5</sub>; and
- Identification and analysis of practical intervention approaches for PM<sub>2.5</sub> indoors.

The workshop shall include discussion of findings and recommendations regarding 1) key implications of the scientific research for public health, including potential near-term opportunities for incorporating what is known into public health practice, and 2) where additional research will be most critical to understanding indoor exposure to PM<sub>2.5</sub> and the effectiveness of interventions. As appropriate, opportunities for advancing such research by addressing methodological or technological barriers or enhancing coordination or collaboration will be noted. The indoor environments considered in this workshop will be limited to non-industrial exposure within buildings.

## VII. DESCRIPTION OF TASKS

### **Task 1: Kick-off Call and Project Milestone Chart (Contract Level PWS Task Area 5)**

EPA is requesting NASEM to convene a teleconference and provide a Project Milestone Chart for this TO.

#### **SubTask 1.1 Kick-off Call**

The NASEM shall convene a teleconference with the TOCOR and relevant EPA staff to review the objectives, technical requirements, and schedule for the workshop on exposure to PM<sub>2.5</sub> indoors, health effects, and practical mitigation solutions. The teleconference shall occur within fifteen (15) business days of acceptance of this task order on a mutually agreeable date.

#### **SubTask 1.2 Project Milestone Chart**

EPA requests that a project milestone chart for the workshop be provided to the Contracting Officer (CO), Contract Level Contracting Officer Representative (CL COR) and TOCOR within one (1) month of task initiation. This project milestone chart should detail the significant activities for each task/subtask, and expected progression of the deliverables.

#### **Task 1. Deliverables**

Task	SubTask	Deliverable	Schedule
1	1.1	TO Kick-off Teleconference Minutes	Within 15 business days of acceptance of this TO
1	1.2	Project milestone chart	Within 1 month of acceptance of this TO

### **Task 2: Identification of Workshop Planning Committee (Contract Level PWS Task Area 5)**

The NASEM shall identify a committee of 6-12 subject matter experts who (a) are recognized experts in the field(s) relevant to the request, (b) represent a range of broadly recognized views on PM<sub>2.5</sub> and health effects from both indoor and outdoor sources, (c) are available to present and discuss their individual views at the indoor PM<sub>2.5</sub> workshop and (d) have been evaluated for conflict of interest or lack of impartiality. NASEM shall provide the TOCOR a proposed list of experts including a biographical sketch, proposed area of expertise for each expert, and if there are any issues regarding potential conflict of interest (COI) or impartiality. NASEM shall convene a teleconference with the TOCOR and relevant EPA staff to review the proposed list of experts. EPA may provide comments on the proposed list regarding qualifications and COI/impartiality. The NASEM shall independently determine who will serve on the committee. The NASEM shall provide a final list of committee members within three (3) months of acceptance of this TO.

**Task 2. Deliverable**

Task	SubTask	Deliverable	Schedule
2	NA	Proposed and final lists of committee members including biographical sketches and report of COI/impartiality review	Within 3 months of acceptance of this TO

**Task 3: Workshop Planning Teleconferences & Creation of Webpage (Contract Level PWS Task Area 5)**

EPA is requesting NASEM to conduct workshop planning teleconferences and provide a NASEM Webpage for this TO.

**SubTask 3.1 Workshop Planning Teleconferences**

The NASEM shall conduct 5-7 workshop planning teleconferences. Planning shall include the identification of expert speakers, in addition to the committee members, for participation in the workshop. Planning teleconferences shall begin once the committee is formed (see Task 2) and continue through the date of the workshop (see Task 4).

**SubTask 3.2 Creation of Webpage to Disseminate Workshop Information**

Planning shall also include the creation of a NASEM webpage for dissemination of information about the workshop, including the draft agenda within six (6) months. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

**Task 3. Deliverable**

Task	SubTask	Deliverable	Schedule
3	3.1	Conduct 5-7 Workshop planning teleconferences	Beginning 3 months after of acceptance of this TO through the date of the workshop (see Task 4)
3	3.2	NASEM webpage for dissemination of workshop information	Within 6 months of acceptance of this TO

**Task 4: Public Workshop (Contract Level PWS Task Area 5)**

EPA is requesting that NASEM convene a public workshop, provide a list of attendees and commenters, and post a recording of the workshop on the NASEM website.



**SubTask 4.1 Conduct Public Workshop by Webinar**

The committee shall conduct a public workshop by webinar to gather information from relevant experts and other stakeholders. The TOCOR and alternate TOCOR shall be informed via email of the date, time, and agenda of the workshop at least one (1) month prior to the webinar. NASEM shall set up and manage the webinar and provide any technical support for experts' participation. NASEM shall also arrange for a professional writer to document the webinar in a manner that would assist the NASEM to create a summary. All communications regarding the public webinar should go through the TOCOR and alternate TOCOR.

**SubTask 4.2 List of Workshop Attendees and Commenters**

The NASEM shall provide EPA with a final list of all workshop attendees and public commenters within five (5) business days of the workshop.

**SubTask 4.3 Recording of Workshop Webinar**

The workshop shall be recorded and made available on the NASEM website. The TOCOR and alternate TOCOR shall be notified via email, of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

**Task 4. Deliverables**

Task	SubTask	Deliverable	Schedule
4	4.1	Date, time, and agenda of the workshop	1 month prior to start of workshop
4	4.2	Final list of all workshop attendees and commenters	Within 5 business days of the public workshop
4	4.3	Recordings of workshop available on the NASEM website	Prior to release of workshop summary (See Task 5)

**Task 5: Summary of Public Workshop (Contract Level PWS Task Area 5)**

A NASEM webpage with materials related to the workshop and a summary of the workshop shall be provided.

**SubTask 5.1 Draft Summary of Workshop**

A draft summary shall be provided to the TOCOR within two (2) months following the conclusion of the workshop. The target audience for the summary report is policy makers, public health professionals, and the general public. This may be in the form of a text summary, graphical summary, or some combination of both.

**SubTask 5.2 Final Summary of Workshop**

The TOCOR will provide comments on the draft summary within one (1) month, and NASEM shall provide a final summary to the TOCOR within one (1) month following receipt of the comments.

**SubTask 5.3 Final Professionally Formatted Summary of Workshop**

A final professionally formatted version of the summary in Adobe PDF format shall be provided to the TOCOR within one (1) month of completion of the final summary. The TOCOR and alternate TOCOR shall be notified via email, of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

**SubTask 5.4 Workshop Summary on NASEM Website**

The final professionally formatted workshop summary in Adobe PDF format shall be available on the NASEM website prior to expiration of this TO.

***Task 5. Deliverable***

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
5	5.1	Draft summary following conclusion of workshop	Within 2 months following conclusion of workshop
5	5.2	Final summary following receipt of TOCOR comments	Within 1 month of receipt of comments
5	5.3	Final professionally formatted version of summary in Adobe PDF	Within 1 month of completion of final summary
5	5.4	Workshop summary available in Adobe PDF on the NASEM website	Prior to expiration of this TO

**VIII. ACCEPTANCE CRITERIA**

The Contractor shall prepare high quality products and that are reproducible and transparent. Deliverables shall be edited for grammar, spelling, and logic flow. The technical information shall be reasonably complete and presented in a logical, readable manner. Text deliverables and the workshop summary shall be provided in Microsoft Word 2016 and/or Adobe PDF or compatible formats.

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES	
				1		2	
2. AMENDMENT/MODIFICATION NO. P00001		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
6. ISSUED BY CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001		CODE CAD		7. ADMINISTERED BY (If other than Item 6)		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)  National Academy of Sciences Attn: JAMES BURKE 500 FIFTH STREET NW WASHINGTON DC 200012736				(X)		9A. AMENDMENT OF SOLICITATION NO.	
						9B. DATED (SEE ITEM 11)	
				X		10A. MODIFICATION OF CONTRACT/ORDER NO. 68HERC19D0011 68HERC20F0334	
						10B. DATED (SEE ITEM 13) 07/09/2020	
CODE 041964057		FACILITY CODE					
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required) See Schedule							
<b>13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>							
CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.						
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).						
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:						
	D. OTHER (Specify type of modification and authority)						
<b>E. IMPORTANT:</b> Contractor <input checked="" type="checkbox"/> is not <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) DUNS Number: 041964057 Incremental New Task Order under NAS Contract #68HERC19D0011, Workshop on the health risks of indoor exposures to PM2.5 and practical mitigation solutions  CO: Mark Cranley, CS: William Yates, Contract Specialist Acquisition Division: CAD Exemption Code (5170 Conference Process): ME262600 TOCOR: Alison Clune ALTOCOR: Laura Kolb CL COR: Glennis Reslock Continued ...							
Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				William M. Yates			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
(Signature of person authorized to sign)				 ELECTRONIC SIGNATURE (Signature of Contracting Officer)		09/29/2020	

## CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED  
68HERC19D0011/68HERC20F0334/P00001PAGE OF  
2 2NAME OF OFFEROR OR CONTRACTOR  
National Academy of Sciences

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>ALT CL COR: Jorge Rangel No IT Codes or FITARA necessary 0 Conference Process): ME262600 TOCOR: Alison Clune Max Expire Date: 01/07/2022 The purpose of this modification is to incorporate the attached EPA blanket administrative modification signed by Raoul Scott on July 30, 2020. All other terms and conditions remain unchanged. Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711 Period of Performance: 07/09/2020 to 01/07/2022</p>				

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES	
2. AMENDMENT/MODIFICATION NUMBER		3. EFFECTIVE DATE 08/13/2020		4. REQUISITION/PURCHASE REQUISITION NUMBER		5. PROJECT NUMBER (If applicable)	
6. ISSUED BY Raoul D. Scott, Director OMS/ARM/OAS/Policy, Training and Oversight Division US Environmental Protection Agency, Mail Code 3802R 1200 Pennsylvania Avenue, NW Washington, DC 20004		7. ADMINISTERED BY (If other than Item 6)		CODE			
8. NAME AND ADDRESS OF CONTRACTOR (Number, street, county, State and ZIP Code)  To All EPA Contractors				<input checked="" type="checkbox"/> (X)		9A. AMENDMENT OF SOLICITATION NUMBER	
				<input type="checkbox"/>		9B. DATED (SEE ITEM 11)	
				<input checked="" type="checkbox"/> (X)		10A. MODIFICATION OF CONTRACT/ORDER NUMBER To all EPA Contracts and Orders	
				<input type="checkbox"/>		10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:  
 (a) By completing items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted;  
 or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.  
IT MODIFIES THE CONTRACT/ORDER NUMBER AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NUMBER IN ITEM 10A.
<input type="checkbox"/>	
<input checked="" type="checkbox"/> (X)	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor ☒ is not ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

This contract/order is being modified in accordance with the applicability instructions in interim FAR Case 2019-009, and FAR 4.2105, requiring contracting officers to include FAR clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

See attached for the full text version of FAR 52.204-25. Contractor Acknowledgment of receipt required.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Raoul D. Scott, Director Policy, Training and Oversight Division	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA  RAOUL SCOTT Digitally signed by RAOUL SCOTT Date: 2020.07.30 11:40:17 -04'00'	16C. DATE SIGNED
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

Previous edition unusable

## **52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.**

As prescribed in 4.2105(b) and in the applicability instructions in interim FAR Case 2019-009, insert the following clause:

### **Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020)**

(a) Definitions. As used in this clause—

*Backhaul* means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

*Covered foreign country* means The People's Republic of China.

*Covered telecommunications equipment or services* means—

(1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);

(2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);

(3) Telecommunications or video surveillance services provided by such entities or using such equipment; or

(4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

*Critical technology* means—

(1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;

(2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-

(i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or

(ii) For reasons relating to regional stability or surreptitious listening;

(3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);

(4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);

(5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or

(6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

*Interconnection arrangements* means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

*Reasonable inquiry* means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

*Roaming* means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

*Substantial or essential component* means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) Prohibition. (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.

(c) *Exceptions.* This clause does not prohibit contractors from providing—

(1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(2) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(d) Reporting requirement.

(1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at <https://dibnet.dod.mil>. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at <https://dibnet.dod.mil>.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause

(i) Within one business day from the date of such identification or notification: the contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.



(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial items.

(End of clause)

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 08/13/2020		2. CONTRACT NO. (If any) 68HERC19D0011		6. SHIP TO: a. NAME OF CONSIGNEE OAR/ORIA	
3. ORDER NO. 68HERC20F0395		4. REQUISITION/REFERENCE NO. See Schedule			
5. ISSUING OFFICE (Address correspondence to) CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency Mail Code 6601J 1200 Pennsylvania Avenue NW	
				c. CITY Washington	e. ZIP CODE 20460
7. TO: JAMES BURKE				f. SHIP VIA	
a. NAME OF CONTRACTOR National Academy of Sciences					
b. COMPANY NAME				8. TYPE OF ORDER	
c. STREET ADDRESS 500 FIFTH STREET NW				<input type="checkbox"/> a. PURCHASE REFERENCE YOUR:  Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
d. CITY WASHINGTON				e. STATE DC	f. ZIP CODE 200012736
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE Office of Research and Development	
11. BUSINESS CLASSIFICATION (Check appropriate box(es))					
<input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB					
12. F.O.B. POINT					
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	
a. INSPECTION Destination	b. ACCEPTANCE Destination				
16. DISCOUNT TERMS					

## 17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 041964057 Incremental New Task Order under NAS Contract #68HERC19D0011, Workshop on the health risks of indoor exposures to PM2.5 and practical mitigation solutions Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center		\$235,000.00				17(i) GRAND TOTAL
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts		\$235,000.00				
c. CITY Durham		d. STATE NC	e. ZIP CODE 27711				

22. UNITED STATES OF AMERICA BY (Signature) 08/13/2020

23. NAME (Typed)  
William M. Yates  
TITLE: CONTRACTING/ORDERING OFFICER

ELECTRONIC SIGNATURE

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

**IMPORTANT:** Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 08/13/2020	CONTRACT NO. 68HERC19D0011	ORDER NO. 68HERC20F0395
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	<p>CO: Mark Cranley, CS: William Yates, Contract Specialist Acquisition Division: CAD Exemption Code (5170 Conference Process): ME262600 TOCOR: Alison Clune ALTOCOR: Laura Kolb CL COR: Glennis Reslock ALT CL COR: Jorge Rangel No IT Codes or FITARA necessary 0 Conference Process): ME262600 TOCOR: ALISON CLUNE Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 08/13/2020 to 08/12/2022</p> <p>This request will have (2) EAS PR's associated as follows: From OAR/IED (PR-OAR-20-01109) and ORD/OSAP (PR-ORD-20-01561) both PR's must be pulled into award for total of \$235,000. ALL SUPPORTING DOCUMENTS are under PR-OAR-20-01109.</p> <p>New Task Order request under NAS Contract #68HERC19D0011, Title: Consensus report on state-of-science on chemicals in indoor environments and priorities for future research. Program Office: OAR/IED</p> <p>Requisition No: PR-OAR-20-01109, PR-ORD-20-01561</p> <p>Accounting Info: 20-21-B-33B00AI-000AH5-2505-2033BEE013 -001 BFY: 20 EFY: 21 Fund: B Budget Org: 33B00AI Program (PRC): 000AH5 Budget (BOC): 2505 DCN - Line ID: 2033BEE013-001 Funding Flag: Partial Funded: \$100,000.00 Continued ...</p>				235,000.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$235,000.00

ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION

PAGE NO  
3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER  
08/13/2020

CONTRACT NO.  
68HERC19D0011

ORDER NO.  
68HERC20F0395

ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Accounting Info: 20-21-C-2631000-000FK6XR2-2532-26A6A-2 02631E056-001 BFY: 20 EFY: 21 Fund: C Budget Org: 2631000 Program (PRC): 000FK6XR2 Budget (BOC): 2532 Cost: 26A6A DCN - Line ID: 202631E056-001 Funding Flag: Partial Funded: \$135,000.00					

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

## PERFORMANCE WORK STATEMENT

National Academies of Sciences, Engineering, and Medicine (NASEM)

Contract #68HERC19D0011

PR-OAR-20-01109, PR-ORD-20-01561

Task Order #68HERC20F0395

**I. TITLE:** Consensus report on state-of-science on chemicals in indoor environments and priorities for future research

**EAS Short Title:** Consensus report on indoor chemistry

### II. Task Order Contracting Officer Representative(s):

<b>Task Order Contracting Officer Representative (TOCOR)</b> <b>Name:</b> Alison Clune <b>Office:</b> OAR/ORIA/IED/CSA William Jefferson Clinton Building - West 1200 Pennsylvania Ave NW Mail Code 6909T; Room 1318G Washington, DC 20460  <b>Phone:</b> 202-343-9874 <b>Email:</b> clune.alison@epa.gov	<b>Alternate Task Order Contracting Officer Representative (Alt. TOCOR)</b> <b>Name:</b> Laura Kolb <b>Office:</b> OAR/ORIA/IED/CSA William Jefferson Clinton Building - West 1200 Pennsylvania Ave NW Mail Code 6909T; Room 1212A Washington, DC 20460  <b>Phone:</b> 202-343-9438 <b>Email:</b> kolb.laura@epa.gov
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**III. PERIOD OF PERFORMANCE:** Date of Task Order award through 24 months following award.

### IV. PURPOSE OF TASK ORDER

The purpose of this task order (TO) is to produce a consensus report authored by a committee of scientific experts and leaders convened by the National Academies of Sciences, Engineering, and Medicine (NASEM) to synthesize the state-of the-science and priorities for future research regarding chemicals in indoor air.

### V. BACKGROUND

While air quality standards are set and based on outdoor air quality, people spend about 90% of their time indoors. Outdoor air pollutants can infiltrate into buildings and impact indoor air quality (IAQ), a process influenced by outdoor pollutant concentrations, building characteristics, and meteorology. Additionally, chemical transformations can occur indoors including

interactions between chemicals in the air and on surfaces, and this has generated considerable interest in recent years. Advances in instrumentation have allowed scientists to observe chemical species and reactions with greater temporal and spatial resolution, which has led to an abundance of new information about chemicals in indoor environments. While indoors, people are in much closer proximity to primary and secondary pollutant sources, raising by orders of magnitude the potential for exposure to pollutants. For these reasons, indoor air has been a topic of interest to the Office of Research Development's (ORD) Air and Energy (A-E) Research Program and to the Science To Achieve Results (STAR) program for several years. This research area is also of great interest to the Office of Radiation and Indoor Air (ORIA) in the Office Air and Radiation (OAR).

In 2014, the STAR program funded 9 research grants totaling nearly \$8 million to investigate the impact that a changing climate may have on concentrations of pollutants indoors and the resulting health effects

([https://cfpub.epa.gov/ncer\\_abstracts/index.cfm/fuseaction/recipients.display/rfa\\_id/590](https://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/recipients.display/rfa_id/590)).

Following the STAR funding, other organizations have recently supported research in this topic area. Notably the Alfred P. Sloan Foundation funded several grants and a major indoor air field campaign that was undertaken in 2018. Since several of these projects are now coming to completion, it will be helpful to synthesize the recent advances in understanding of indoor chemistry, including the links to air quality and human health, to understand implications for current policies and practices and inform priorities for additional research. A consensus report will significantly enhance the outcome of STAR's indoor air research portfolio to ORD's Program office partners in ORIA, other federal agencies and the public.

ORIA's mission is to protect the public and the environment from radiation and indoor air pollution. This consensus report will strongly support ORIA's efforts to build a solid scientific foundation on priority areas related to IAQ including indoor chemistry. ORIA expects to use the report to communicate the state of knowledge on key chemical drivers of IAQ, and raise awareness that chemistry is happening indoors and can impact IAQ in ways that are potentially relevant to human health. In addition, the report will support the development of guidance on practical solutions to avoid or mitigate potential negative impacts of indoor chemistry on IAQ.

## **VI. SCOPE OF WORK**

The NASEM shall convene an ad hoc committee of scientific experts and leaders to consider the state-of-the-science regarding chemicals in indoor air. Specifically, the committee shall focus on:

- New findings about previously under-reported chemical species, chemical reactions, and sources of chemicals, as well as the distribution of chemicals; and
- How indoor chemistry findings fit into context of what is already known about the link between chemical exposure, air quality, and human health.

The committee's consideration of this information shall lead to a report with findings and recommendations regarding 1) key implications of the scientific research, including potential near-term opportunities for incorporating what is known into practice, and 2) where additional chemistry research will be most critical to understanding the chemical composition of indoor air and adverse exposures. As appropriate, opportunities for advancing such research by addressing methodological or technological barriers or enhancing coordination or collaboration will be noted. The indoor environments considered in this study will be limited to non-industrial exposure within buildings.

## **VII. DESCRIPTION OF TASKS**

### **Task 1: Kick-off Call and Project Milestone Chart (Contract Level PWS Task Area 2)**

EPA is requesting NASEM to convene a teleconference and provide a Project Milestone Chart for this TO.

#### **SubTask 1.1 Kick-off Call**

The NASEM shall convene a teleconference with the TOCOR and relevant EPA staff to review the study scope, committee identification, proposed milestones and deliverables, and communication plans. This teleconference shall occur within fifteen (15) business days of acceptance of this task order.

#### **SubTask 1.2 Project Milestone Chart**

EPA requests that a project milestone chart for the consensus study be provided to the Contracting Officer (CO), Contract Level Contracting Officer Representative (CL COR) and TOCOR within thirty (30) business days of task initiation. This project milestone chart should detail the significant activities for each task/subtask, and expected progression of the deliverables.

#### ***Task 1. Deliverables***

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
1	1.1	TO Kick-off Call Meeting Minutes	Within 15 business days of acceptance of this TO
1	1.2	Project milestone chart	Within 30 business days of acceptance of this TO

### **Task 2: Quality Assurance Documentation (Admin)**

The NASEM must provide acceptable quality assurance and quality control documentation to EPA within one (1) month of award of this agreement. Acceptable documentation will be a Quality Management Plan (QMP) and Quality Assurance Project Plan (QAPP). Work may not start until the QMP and QAPP are approved by the Project Officer (PO) and Director of Quality Assurance in Office of Science of Advisor, Engagement and Policy (OSAP) in EPA's ORD. The

QMP will be written in accordance with QA R-2 and the QAPP will be written in accordance with OSAPE Requirements for Secondary Data. Guidance on the content and format of a QAPP will be provided by EPA. The TOCOR will provide the NASEM with the PO and QA contact's information upon request for pre-submittal questions. The NASEM will copy the TOCOR and PO on any communication with the QA contact.

**Task 2. Deliverable**

Task	SubTask	Deliverable	Schedule
2	NA	Quality Management Plan (QMP) and Quality Assurance Project Plan (QAPP)	Within 1 month of acceptance of this TO

**Task 3: Identification of Consensus Study Committee (Contract Level PWS Task Area 2)**

The NASEM shall identify a study committee of approximately 14 subject matter experts who (a) are recognized experts in the field(s) relevant to the request, (b) represent a range of broadly recognized views on chemicals in indoor air and their potential health effects, (c) and have been evaluated for conflict of interest or lack of impartiality. NASEM shall solicit nominations from the sponsor and consider those with other nominations to finalize a list of candidates but shall independently determine who will serve on the study committee. The NASEM shall provide a final list of committee members that includes biographical sketches that indicate their proposed area of expertise and will indicate if there are any issues regarding potential conflict of interest (COI) or impartiality within three (3) months of acceptance of this TO. EPA may provide comments on the list regarding qualifications and COI/impartiality.

**Task 3. Deliverable**

Task	SubTask	Deliverable	Schedule
3	NA	Final lists of committee members including biographical sketches and report of COI/impartiality review	Within 3 months of acceptance of this TO

**Task 4: Committee Teleconferences, Public Workshops, and Creation of Webpage (Contract Level PWS Task Area 2)**

EPA is requesting NASEM to conduct committee teleconferences and public information gathering workshops and create a NASEM webpage for this TO.

**SubTask 4.1 Committee Teleconferences and Public Information Gathering Workshop**



The committee shall conduct public webinars to gather information from relevant experts and other stakeholders that will inform their consensus report. The committee will also hold one public workshop. NASEM shall identify expert speakers to participate in the webinars and workshop. NASEM shall set up and manage the webinars and provide any technical support for experts' participation. The TOCOR and alternate TOCOR shall be informed via email of the date, time, and agenda of the webinars and workshop at least one (1) month prior to the events. All communications regarding public teleconferences should go through the TOCOR and alternate TOCOR.

#### **SubTask 4.2 Creation of Webpage to Disseminate Study Information**

The NASEM shall create a NASEM webpage for dissemination of information about the study within six (6) months of acceptance of this TO. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

#### **SubTask 4.3 Recordings of Public Teleconferences and Workshops**

All public teleconferences and workshops (or public portions thereof) shall be recorded and made available on the NASEM website. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

### ***Task 4. Deliverables***

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
4	4.1	Date, time, and agenda of public workshops and teleconferences	1 month prior to start of workshop or teleconference
4	4.2	NASEM webpage for dissemination of study information	Within 6 months of acceptance of this TO
4	4.3	Recordings of public webinars available on the NASEM website	Prior to release of consensus report (see Task 5)

### **Task 5: Consensus Study Report on Indoor Chemistry (Contract Level PWS Task Area 2)**

EPA is requesting NASEM to produce a consensus study report on the state-of-the-science and priorities for future research regarding chemicals in indoor air.

#### **SubTask 5.1 Drafting and Peer-Review of Consensus Study Report**

The committee shall produce a draft consensus study report documenting the state-of-the-science and priorities for future research regarding chemicals in indoor air, consistent with the scope of work/study charge as described in section VI. The state of the knowledge of the impacts of chemicals on indoor air quality and human health impacts will be addressed comprehensively and will include public health intervention strategies. Before release, the

report shall be peer-reviewed by an external group of 10-12 experts to ensure that it addresses the scope of work/study charge and remains impartial and objective.

#### **SubTask 5.2 Pre-publication Consensus Study Report on NASEM Website**

Once finalized and approved by the NASEM, the report shall be released as a pre-publication Adobe PDF download to the public via the NASEM website. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

#### **SubTask 5.3 Final Consensus Study Report on NASEM Website and in Print**

Within 3 months of the pre-publication release, a final edited and bound version of the report shall be available in print and Adobe PDF download via the NASEM website. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

#### ***Task 5. Deliverables***

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
5	5.1	Conduct peer-review of consensus study report	At least 3 months prior to expiration of this TO
5	5.2	Prepublication consensus study report available on NASEM website in Adobe PDF	At least 2 months prior to expiration of this TO
5	5.3	Final consensus study report available on NASEM website in Adobe PDF and in print	Prior to the expiration of this TO

#### **Task 6: Summary of health impacts of chemicals in indoor air (Contract Level PWS Task Area 2)**

The NASEM shall create a 2-5 page standalone summary of the impacts of chemicals on indoor air quality and human health and potential public health intervention strategies based on the findings in the consensus study report. The target audience for the summary report is policy makers, public health professionals, and the general public. This may be in the form of a text summary, graphical summary, or some combination of both. The summary shall be released as an Adobe PDF download to the public via the NASEM website. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

**Task 6. Deliverable**

Task	SubTask	Deliverable	Schedule
6	NA	Standalone summary of findings on potential health impacts of chemicals in indoor air in Adobe PDF on NASEM website	Prior to expiration of this TO

**VIII. ACCEPTANCE CRITERIA**

The Contractor shall prepare high quality products and that are reproducible and transparent. Deliverables shall be edited for grammar, spelling, and logic flow. The technical information shall be reasonably complete and presented in a logical, readable manner. Text deliverables including the consensus study report and standalone summary of health impacts shall be provided in Microsoft Word 2016 and/or Adobe PDF or compatible format.

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES	
						1      2	
2. AMENDMENT/MODIFICATION NO.		3. EFFECTIVE DATE		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
P00001		See Block 16C					
6. ISSUED BY		CODE		7. ADMINISTERED BY (If other than Item 6)		CODE	
CAD							
US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001							
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(x)			
National Academy of Sciences Attn: JAMES BURKE 500 FIFTH STREET NW WASHINGTON DC 200012736				9A. AMENDMENT OF SOLICITATION NO.			
				9B. DATED (SEE ITEM 11)			
				x			
				10A. MODIFICATION OF CONTRACT/ORDER NO.			
				68HERC19D0011			
				68HERC20F0395			
				10B. DATED (SEE ITEM 13)			
				08/13/2020			
CODE 041964057		FACILITY CODE					
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)				Net Decrease:		-\$35,000.00	
See Schedule							
<b>13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>							
CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.						
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).						
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:						
	D. OTHER (Specify type of modification and authority)						
<b>E. IMPORTANT:</b> Contractor <input checked="" type="checkbox"/> is not <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)							
DUNS Number: 041964057							
Incremental New Task Order under NAS Contract #68HERC19D0011, Workshop on the health risks of indoor exposures to PM2.5 and practical mitigation solutions							
CO: Mark Cranley,							
CS: William Yates, Contract Specialist							
Acquisition Division: CAD							
Exemption Code (5170 Conference Process): ME262600							
TOCOR: Alison Clune							
ALTOCOR: Laura Kolb							
CL COR: Glennis Reslock							
Continued ...							
Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				William M. Yates			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
(Signature of person authorized to sign)				 (Signature of Contracting Officer)		ELECTRONIC SIGNATURE 08/13/2020	

<b>CONTINUATION SHEET</b>	REFERENCE NO. OF DOCUMENT BEING CONTINUED 68HERC19D0011/68HERC20F0395/P00001	PAGE	OF
		2	2

NAME OF OFFEROR OR CONTRACTOR  
National Academy of Sciences

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>ALT CL COR: Jorge Rangel No IT Codes or FITARA necessary 0 Conference Process): ME262600 TOCOR: ALISON CLUNE LIST OF CHANGES: Reason for Modification: the purpose of this modification will be to correct the PWS and extend the ending date of the task order by four months, and de-obligate excess funding in the amount of \$35,000.</p> <p>Period Of Performance End Date changed from 12-AUG-22 to 12-DEC-22</p> <p>Total Amount for this Modification: -\$35,000.00 New Total Amount for this Version: \$200,000.00 New Total Amount for this Award: \$200,000.00 Obligated Amount for this Modification: -\$35,000.00 New Total Obligated Amount for this Award: \$200,000.00</p> <p>CHANGES FOR LINE ITEM NUMBER: 1 Total Amount changed from \$235,000.00 to \$200,000.00 Obligated Amount for this Modification: -\$35,000.00</p> <p>CHANGES FOR DELIVERY LOCATION: OAR/ORIA Amount changed from \$235,000.00 to \$200,000.00</p> <p>CHANGES FOR ACCOUNTING CODE: 20-21-B-33B00AI-000AH5-2505-2033BEE013-001 Amount changed from \$100,000.00 to \$65,000.00 Percent changed from 100 to 0</p> <p>Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711 Period of Performance: 08/13/2020 to 12/12/2022</p>				

## PERFORMANCE WORK STATEMENT

National Academies of Sciences, Engineering, and Medicine (NASEM)

Contract #68HERC19D0011

PR-OAR-20-01109, PR-ORD-20-01561

Task Order #68HERC20F0395 Amendment P00001

**I. TITLE:** Consensus report on state-of-science on chemicals in indoor environments and priorities for future research

**EAS Short Title:** Consensus report on indoor chemistry

### II. Task Order Contracting Officer Representative(s):

<b>Task Order Contracting Officer Representative (TOCOR)</b> <b>Name:</b> Alison Clune <b>Office:</b> OAR/ORIA/IED/CSA William Jefferson Clinton Building - West 1200 Pennsylvania Ave NW Mail Code 6909T; Room 1318G Washington, DC 20460  <b>Phone:</b> 202-343-9874 <b>Email:</b> clune.alison@epa.gov	<b>Alternate Task Order Contracting Officer Representative (Alt. TOCOR)</b> <b>Name:</b> Laura Kolb <b>Office:</b> OAR/ORIA/IED/CSA William Jefferson Clinton Building - West 1200 Pennsylvania Ave NW Mail Code 6909T; Room 1212A Washington, DC 20460  <b>Phone:</b> 202-343-9438 <b>Email:</b> kolb.laura@epa.gov
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**III. PERIOD OF PERFORMANCE:** Date of Task Order award through 28 months following award.

### IV. PURPOSE OF TASK ORDER

The purpose of this task order (TO) is to produce a consensus report authored by a committee of scientific experts and leaders convened by the National Academies of Sciences, Engineering, and Medicine (NASEM) to synthesize the state-of the-science and priorities for future research regarding chemicals in indoor air.

### V. BACKGROUND

While air quality standards are set and based on outdoor air quality, people spend about 90% of their time indoors. Outdoor air pollutants can infiltrate into buildings and impact indoor air quality (IAQ), a process influenced by outdoor pollutant concentrations, building characteristics, and meteorology. Additionally, chemical transformations can occur indoors including

interactions between chemicals in the air and on surfaces, and this has generated considerable interest in recent years. Advances in instrumentation have allowed scientists to observe chemical species and reactions with greater temporal and spatial resolution, which has led to an abundance of new information about chemicals in indoor environments. While indoors, people are in much closer proximity to primary and secondary pollutant sources, raising by orders of magnitude the potential for exposure to pollutants. For these reasons, indoor air has been a topic of interest to the Office of Research Development's (ORD) Air and Energy (A-E) Research Program and to the Science To Achieve Results (STAR) program for several years. This research area is also of great interest to the Office of Radiation and Indoor Air (ORIA) in the Office Air and Radiation (OAR).

In 2014, the STAR program funded 9 research grants totaling nearly \$8 million to investigate the impact that a changing climate may have on concentrations of pollutants indoors and the resulting health effects

([https://cfpub.epa.gov/ncer\\_abstracts/index.cfm/fuseaction/recipients.display/rfa\\_id/590](https://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/recipients.display/rfa_id/590)).

Following the STAR funding, other organizations have recently supported research in this topic area. Notably the Alfred P. Sloan Foundation funded several grants and a major indoor air field campaign that was undertaken in 2018. Since several of these projects are now coming to completion, it will be helpful to synthesize the recent advances in understanding of indoor chemistry, including the links to air quality and human health, to understand implications for current policies and practices and inform priorities for additional research. A consensus report will significantly enhance the outcome of STAR's indoor air research portfolio to ORD's Program office partners in ORIA, other federal agencies and the public.

ORIA's mission is to protect the public and the environment from radiation and indoor air pollution. This consensus report will strongly support ORIA's efforts to build a solid scientific foundation on priority areas related to IAQ including indoor chemistry. ORIA expects to use the report to communicate the state of knowledge on key chemical drivers of IAQ, and raise awareness that chemistry is happening indoors and can impact IAQ in ways that are potentially relevant to human health. In addition, the report will support the development of guidance on practical solutions to avoid or mitigate potential negative impacts of indoor chemistry on IAQ.

## **VI. SCOPE OF WORK**

The NASEM shall convene an ad hoc committee of scientific experts and leaders to consider the state-of-the-science regarding chemicals in indoor air. Specifically, the committee shall focus on:

- New findings about previously under-reported chemical species, chemical reactions, and sources of chemicals, as well as the distribution of chemicals; and
- How indoor chemistry findings fit into context of what is already known about the link between chemical exposure, air quality, and human health.

The committee's consideration of this information shall lead to a report with findings and recommendations regarding 1) key implications of the scientific research, including potential near-term opportunities for incorporating what is known into practice, and 2) where additional chemistry research will be most critical to understanding the chemical composition of indoor air and adverse exposures. As appropriate, opportunities for advancing such research by addressing methodological or technological barriers or enhancing coordination or collaboration will be noted. The indoor environments considered in this study will be limited to non-industrial exposure within buildings.

## **VII. DESCRIPTION OF TASKS**

### **Task 1: Kick-off Call and Project Milestone Chart (Contract Level PWS Task Area 2)**

EPA is requesting NASEM to convene a teleconference and provide a Project Milestone Chart for this TO.

#### **SubTask 1.1 Kick-off Call**

The NASEM shall convene a teleconference with the TOCOR and relevant EPA staff to review the study scope, committee identification, proposed milestones and deliverables, and communication plans. This teleconference shall occur within fifteen (15) business days of acceptance of this task order.

#### **SubTask 1.2 Project Milestone Chart**

EPA requests that a project milestone chart for the consensus study be provided to the Contracting Officer (CO), Contract Level Contracting Officer Representative (CL COR) and TOCOR within thirty (30) business days of task initiation. This project milestone chart should detail the significant activities for each task/subtask, and expected progression of the deliverables.

#### ***Task 1. Deliverables***

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
1	1.1	TO Kick-off Call Meeting Minutes	Within 15 business days of acceptance of this TO
1	1.2	Project milestone chart	Within 30 business days of acceptance of this TO

### **Task 2: Quality Assurance Documentation (Admin)**

The NASEM must provide acceptable quality assurance and quality control documentation to EPA within one (1) month of award of this agreement. Acceptable documentation will be a Quality Management Plan (QMP) and Quality Assurance Project Plan (QAPP). Work may not start until the QMP and QAPP are approved by the Project Officer (PO) and Director of Quality Assurance in Office of Science of Advisor, Engagement and Policy (OSAPE) in EPA's ORD. The



QMP will be written in accordance with QA R-2 and the QAPP will be written in accordance with OSAPE Requirements for Secondary Data. Guidance on the content and format of a QAPP will be provided by EPA. The TOCOR will provide the NASEM with the PO and QA contact's information upon request for pre-submittal questions. The NASEM will copy the TOCOR and PO on any communication with the QA contact.

**Task 2. Deliverable**

Task	SubTask	Deliverable	Schedule
2	NA	Quality Management Plan (QMP) and Quality Assurance Project Plan (QAPP)	Within 1 month of acceptance of this TO

**Task 3: Identification of Consensus Study Committee (Contract Level PWS Task Area 2)**

The NASEM shall identify a study committee of approximately 14 subject matter experts who (a) are recognized experts in the field(s) relevant to the request, (b) represent a range of broadly recognized views on chemicals in indoor air and their potential health effects, (c) and have been evaluated for conflict of interest or lack of impartiality. NASEM shall solicit nominations from the sponsor and consider those with other nominations to finalize a list of candidates but shall independently determine who will serve on the study committee. The NASEM shall provide a final list of committee members that includes biographical sketches that indicate their proposed area of expertise and will indicate if there are any issues regarding potential conflict of interest (COI) or impartiality within three (3) months of acceptance of this TO. EPA may provide comments on the list regarding qualifications and COI/impartiality.

**Task 3. Deliverable**

Task	SubTask	Deliverable	Schedule
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EPA is requesting NASEM to conduct committee teleconferences and public information gathering workshops and create a NASEM webpage for this TO.

**SubTask 4.1 Committee Teleconferences and Public Information Gathering Workshop**

The committee shall conduct public webinars to gather information from relevant experts and other stakeholders that will inform their consensus report. The committee will also hold one public workshop. NASEM shall identify expert speakers to participate in the webinars and workshop. NASEM shall set up and manage the webinars and provide any technical support for experts' participation. The TOCOR and alternate TOCOR shall be informed via email of the date, time, and agenda of the webinars and workshop at least one (1) month prior to the events. All communications regarding public teleconferences should go through the TOCOR and alternate TOCOR.

#### **SubTask 4.2 Creation of Webpage to Disseminate Study Information**

The NASEM shall create a NASEM webpage for dissemination of information about the study within six (6) months of acceptance of this TO. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

#### **SubTask 4.3 Recordings of Public Teleconferences and Workshops**

All public teleconferences and workshops (or public portions thereof) shall be recorded and made available on the NASEM website. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

#### **Task 4. Deliverables**

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
4	4.1	Date, time, and agenda of public workshops and teleconferences	1 month prior to start of workshop or teleconference
4	4.2	NASEM webpage for dissemination of study information	Within 6 months of acceptance of this TO
4	4.3	Recordings of public webinars available on the NASEM website	Prior to release of consensus report (see Task 5)

#### **Task 5: Consensus Study Report on Indoor Chemistry (Contract Level PWS Task Area 2)**

EPA is requesting NASEM to produce a consensus study report on the state-of-the-science and priorities for future research regarding chemicals in indoor air.

#### **SubTask 5.1 Drafting and Peer-Review of Consensus Study Report**

The committee shall produce a draft consensus study report documenting the state-of-the-science and priorities for future research regarding chemicals in indoor air, consistent with the scope of work/study charge as described in section VI. The state of the knowledge of the impacts of chemicals on indoor air quality and human health impacts will be addressed comprehensively and will include public health intervention strategies. Before release, the

report shall be peer-reviewed by an external group of 10-12 experts to ensure that it addresses the scope of work/study charge and remains impartial and objective.

#### **SubTask 5.2 Pre-publication Consensus Study Report on NASEM Website**

Once finalized and approved by the NASEM, the report shall be released as a pre-publication Adobe PDF download to the public via the NASEM website. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

#### **SubTask 5.3 Final Consensus Study Report on NASEM Website and in Print**

Within 3 months of the pre-publication release, a final edited and bound version of the report shall be available in print and Adobe PDF download via the NASEM website. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

#### ***Task 5. Deliverables***

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
5	5.1	Conduct peer-review of consensus study report	At least 3 months prior to expiration of this TO
5	5.2	Prepublication consensus study report available on NASEM website in Adobe PDF	At least 2 months prior to expiration of this TO
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The NASEM shall create a 2-5 page standalone summary of the impacts of chemicals on indoor air quality and human health and potential public health intervention strategies based on the findings in the consensus study report. The target audience for the summary report is policy makers, public health professionals, and the general public. This may be in the form of a text summary, graphical summary, or some combination of both. The summary shall be released as an Adobe PDF download to the public via the NASEM website. The TOCOR and alternate TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

**Task 6. Deliverable**

Task	SubTask	Deliverable	Schedule
6	NA	Standalone summary of findings on potential health impacts of chemicals in indoor air in Adobe PDF on NASEM website	Prior to expiration of this TO

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The Contractor shall prepare high quality products and that are reproducible and transparent. Deliverables shall be edited for grammar, spelling, and logic flow. The technical information shall be reasonably complete and presented in a logical, readable manner. Text deliverables including the consensus study report and standalone summary of health impacts shall be provided in Microsoft Word 2016 and/or Adobe PDF or compatible format.

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES	
				1		2	
2. AMENDMENT/MODIFICATION NO. P00002		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
6. ISSUED BY CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001		CODE CAD		7. ADMINISTERED BY (If other than Item 6)		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)  National Academy of Sciences Attn: JAMES BURKE 500 FIFTH STREET NW WASHINGTON DC 200012736				(X)			
				9A. AMENDMENT OF SOLICITATION NO.			
				9B. DATED (SEE ITEM 11)			
				10A. MODIFICATION OF CONTRACT/ORDER NO. 68HERC19D0011 68HERC20F0395			
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<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
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CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.						
X	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).						
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:						
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<b>E. IMPORTANT:</b> Contractor <input checked="" type="checkbox"/> is not <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
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Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				William M. Yates			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
(Signature of person authorized to sign)				 ELECTRONIC SIGNATURE (Signature of Contracting Officer)		10/16/2020	

## CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED  
68HERC19D0011/68HERC20F0395/P00002PAGE OF  
2 2NAME OF OFFEROR OR CONTRACTOR  
National Academy of Sciences

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>ALT CL COR: Jorge Rangel No IT Codes or FITARA necessary 0 Conference Process): ME262600 TOCOR: ALISON CLUNE The purpose of this modification is to incorporate the attached EPA blanket administrative modification signed by Raoul Scott on July 30, 2020. All other terms and conditions remain unchanged. Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711 Period of Performance: 08/13/2020 to 12/12/2022</p>				

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES	
2. AMENDMENT/MODIFICATION NUMBER		3. EFFECTIVE DATE 08/13/2020		4. REQUISITION/PURCHASE REQUISITION NUMBER		5. PROJECT NUMBER (If applicable)	
6. ISSUED BY Raoul D. Scott, Director OMS/ARM/OAS/Policy, Training and Oversight Division US Environmental Protection Agency, Mail Code 3802R 1200 Pennsylvania Avenue, NW Washington, DC 20004		7. ADMINISTERED BY (If other than Item 6)		CODE			
8. NAME AND ADDRESS OF CONTRACTOR (Number, street, county, State and ZIP Code)  To All EPA Contractors				<input checked="" type="checkbox"/> (X)		9A. AMENDMENT OF SOLICITATION NUMBER	
				<input type="checkbox"/>		9B. DATED (SEE ITEM 11)	
				<input checked="" type="checkbox"/> (X)		10A. MODIFICATION OF CONTRACT/ORDER NUMBER To all EPA Contracts and Orders	
				<input type="checkbox"/>		10B. DATED (SEE ITEM 13)	
CODE		FACILITY CODE					

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:  
 (a) By completing items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted;  
 or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.  
IT MODIFIES THE CONTRACT/ORDER NUMBER AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NUMBER IN ITEM 10A.
<input type="checkbox"/>	
<input checked="" type="checkbox"/> (X)	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
<input type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor ☒ is not ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

This contract/order is being modified in accordance with the applicability instructions in interim FAR Case 2019-009, and FAR 4.2105, requiring contracting officers to include FAR clause 52.204-25, Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.

See attached for the full text version of FAR 52.204-25. Contractor Acknowledgment of receipt required.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Raoul D. Scott, Director Policy, Training and Oversight Division	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA  RAOUL SCOTT Digitally signed by RAOUL SCOTT Date: 2020.07.30 11:40:17 -04'00'	16C. DATE SIGNED
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

Previous edition unusable

**STANDARD FORM 30 (REV. 11/2016)**  
Prescribed by GSA FAR (48 CFR) 53.243

## **52.204-25 Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment.**

As prescribed in 4.2105(b) and in the applicability instructions in interim FAR Case 2019-009, insert the following clause:

### **Prohibition on Contracting for Certain Telecommunications and Video Surveillance Services or Equipment (Aug 2020)**

(a) Definitions. As used in this clause—

*Backhaul* means intermediate links between the core network, or backbone network, and the small subnetworks at the edge of the network (e.g., connecting cell phones/towers to the core telephone network). Backhaul can be wireless (e.g., microwave) or wired (e.g., fiber optic, coaxial cable, Ethernet).

*Covered foreign country* means The People's Republic of China.

*Covered telecommunications equipment or services* means—

(1) Telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities);

(2) For the purpose of public safety, security of Government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities);

(3) Telecommunications or video surveillance services provided by such entities or using such equipment; or

(4) Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.

*Critical technology* means—

(1) Defense articles or defense services included on the United States Munitions List set forth in the International Traffic in Arms Regulations under subchapter M of chapter I of title 22, Code of Federal Regulations;

(2) Items included on the Commerce Control List set forth in Supplement No. 1 to part 774 of the Export Administration Regulations under subchapter C of chapter VII of title 15, Code of Federal Regulations, and controlled-



(i) Pursuant to multilateral regimes, including for reasons relating to national security, chemical and biological weapons proliferation, nuclear nonproliferation, or missile technology; or

(ii) For reasons relating to regional stability or surreptitious listening;

(3) Specially designed and prepared nuclear equipment, parts and components, materials, software, and technology covered by part 810 of title 10, Code of Federal Regulations (relating to assistance to foreign atomic energy activities);

(4) Nuclear facilities, equipment, and material covered by part 110 of title 10, Code of Federal Regulations (relating to export and import of nuclear equipment and material);

(5) Select agents and toxins covered by part 331 of title 7, Code of Federal Regulations, part 121 of title 9 of such Code, or part 73 of title 42 of such Code; or

(6) Emerging and foundational technologies controlled pursuant to section 1758 of the Export Control Reform Act of 2018 (50 U.S.C. 4817).

*Interconnection arrangements* means arrangements governing the physical connection of two or more networks to allow the use of another's network to hand off traffic where it is ultimately delivered (e.g., connection of a customer of telephone provider A to a customer of telephone company B) or sharing data and other information resources.

*Reasonable inquiry* means an inquiry designed to uncover any information in the entity's possession about the identity of the producer or provider of covered telecommunications equipment or services used by the entity that excludes the need to include an internal or third-party audit.

*Roaming* means cellular communications services (e.g., voice, video, data) received from a visited network when unable to connect to the facilities of the home network either because signal coverage is too weak or because traffic is too high.

*Substantial or essential component* means any component necessary for the proper function or performance of a piece of equipment, system, or service.

(b) Prohibition. (1) Section 889(a)(1)(A) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2019, from procuring or obtaining, or extending or renewing a contract to procure or obtain, any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. The Contractor is prohibited from providing to the Government any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104.

(2) Section 889(a)(1)(B) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. 115-232) prohibits the head of an executive agency on or after August 13, 2020, from entering into a contract, or extending or renewing a contract, with an entity that uses any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system, unless an exception at paragraph (c) of this clause applies or the covered telecommunication equipment or services are covered by a waiver described in FAR 4.2104. This prohibition applies to the use of covered telecommunications equipment or services, regardless of whether that use is in performance of work under a Federal contract.

(c) *Exceptions.* This clause does not prohibit contractors from providing—

(1) A service that connects to the facilities of a third-party, such as backhaul, roaming, or interconnection arrangements; or

(2) Telecommunications equipment that cannot route or redirect user data traffic or permit visibility into any user data or packets that such equipment transmits or otherwise handles.

(d) Reporting requirement.

(1) In the event the Contractor identifies covered telecommunications equipment or services used as a substantial or essential component of any system, or as critical technology as part of any system, during contract performance, or the Contractor is notified of such by a subcontractor at any tier or by any other source, the Contractor shall report the information in paragraph (d)(2) of this clause to the Contracting Officer, unless elsewhere in this contract are established procedures for reporting the information; in the case of the Department of Defense, the Contractor shall report to the website at <https://dibnet.dod.mil>. For indefinite delivery contracts, the Contractor shall report to the Contracting Officer for the indefinite delivery contract and the Contracting Officer(s) for any affected order or, in the case of the Department of Defense, identify both the indefinite delivery contract and any affected orders in the report provided at <https://dibnet.dod.mil>.

(2) The Contractor shall report the following information pursuant to paragraph (d)(1) of this clause

(i) Within one business day from the date of such identification or notification: the contract number; the order number(s), if applicable; supplier name; supplier unique entity identifier (if known); supplier Commercial and Government Entity (CAGE) code (if known); brand; model number (original equipment manufacturer number, manufacturer part number, or wholesaler number); item description; and any readily available information about mitigation actions undertaken or recommended.

(ii) Within 10 business days of submitting the information in paragraph (d)(2)(i) of this clause: any further available information about mitigation actions undertaken or recommended. In addition, the Contractor shall describe the efforts it undertook to prevent use or submission of covered telecommunications equipment or services, and any additional efforts that will be incorporated to prevent future use or submission of covered telecommunications equipment or services.

(e) *Subcontracts*. The Contractor shall insert the substance of this clause, including this paragraph (e) and excluding paragraph (b)(2), in all subcontracts and other contractual instruments, including subcontracts for the acquisition of commercial items.

(End of clause)

ORDER FOR SUPPLIES OR SERVICES							PAGE OF PAGES		
							1	2	
IMPORTANT: Mark all packages and papers with contract and/or order numbers.									
1. DATE OF ORDER 10/07/2020		2. CONTRACT NO. (If any) 68HERC19D0011			6. SHIP TO:				
3. ORDER NO. 68HERC21F0010		4. REQUISITION/REFERENCE NO. PR-ORD-20-01985		a. NAME OF CONSIGNEE  Office of Research and Development					
5. ISSUING OFFICE (Address correspondence to) CAD  US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency 109 T.W. Alexander Drive			c. CITY Research Triangle Park		
							d. STATE NC		e. ZIP CODE 27711
7. TO: JAMES BURKE				f. SHIP VIA					
a. NAME OF CONTRACTOR National Academy of Sciences				8. TYPE OF ORDER  <input type="checkbox"/> a. PURCHASE REFERENCE YOUR:  Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.					
b. COMPANY NAME									
c. STREET ADDRESS 500 FIFTH STREET NW				<input checked="" type="checkbox"/> b. DELIVERY  Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.					
d. CITY WASHINGTON		e. STATE DC							f. ZIP CODE 200012736
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE Office of Research and Development					
11. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB							12. F.O.B. POINT		
13. PLACE OF			14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 04/06/2022		16. DISCOUNT TERMS		
a. INSPECTION Destination		b. ACCEPTANCE Destination							
17. SCHEDULE (See reverse for Rejections)									
ITEM NO. (a)	SUPPLIES OR SERVICES (b)			QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)	
	DUNS Number: 041964057 Decommit funding in the amount of \$17,205.47 for a grand total of \$782,645.00 New task order request (CPHEA/HEEAD) entitled "Assessing Causality from a Multidisciplinary Evidence Base for Continued ...								
SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		\$782,645.00	17(h) TOTAL (Cont. pages) ▲	
	21. MAIL INVOICE TO:								
	a. NAME		RTP Finance Center				\$782,645.00	17(i) GRAND TOTAL ▲	
	b. STREET ADDRESS (or P.O. Box)		US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						
c. CITY		d. STATE		e. ZIP CODE					
	Durham		NC		27711				
22. UNITED STATES OF AMERICA BY (Signature)					23. NAME (Typed) William M. Yates TITLE: CONTRACTING/ORDERING OFFICER				

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

**IMPORTANT:** Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 10/07/2020	CONTRACT NO. 68HERC19D0011	ORDER NO. 68HERC21F0010
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
0001	<p>National Ambient Air Quality Standards" under NAS Contract #68HERC19D0011</p> <p>NAS Contract: 68HERC19D0011 TO No.: TBD TOCOR: David Lehmann ALTOCOR: Tara Greaver CO: Mark Cranley CS: William Yates Acquisition Division: CAD Exception code (5170 Conference Process): ME262600 CL COR: Glennis Reslock ALT CL COR: Jorge Rangel NO IT Codes or FITARA necessary</p> <p>TOCOR: DAVID LEHMANN Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001</p> <p>Accounting Info: 20-21-C-26D2000-000F84-2532-26A5C-2026D2C026-001 BFY: 20 EFY: 21 Fund: C Budget Org: 26D2000 Program (PRC): 000F84 Budget (BOC): 2532 Cost: 26A5C DCN - Line ID: 2026D2C026-001 Period of Performance: 10/07/2020 to 04/06/2022</p> <p>Decommit funding in the amount of \$17,205.47 for a grand total of \$782,645.00. New task order request (CPHEA/HEEAD) entitled "Assessing Causality from a Multidisciplinary Evidence Base for National Ambient Air Quality Standards" under NAS Contract #68HERC19D0011</p>				782,645.00	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$782,645.00

## PERFORMANCE WORK STATEMENT

National Academy of Sciences (NAS)

Contract #68HERC19D0011

PR-ORD-20-01985

Task Order #68HERC21F0010

**I. TITLE:** Assessing Causality from a Multidisciplinary Evidence Base for National Ambient Air Quality Standards

**EAS SHORT TITLE:** NASEM Consensus Report on Assessing Causality

### II. TASK ORDER CONTRACTING OFFICER REPRESENTATIVE(S):

<b>Task Order Contracting Officer Representative (TOCOR)</b>	<b>Alternate Task Order Contracting Officer Representative (Alt. TOCOR)</b>
<b>Name:</b> David Lehmann	<b>Name:</b> Tara Greaver
<b>Office:</b> ORD/CPHEA/HEEAD/IHAB	<b>Office:</b> ORD/CPHEA/HEEAD/IEAB
U.S. EPA 109 T.W. Alexander Dr.	U.S. EPA 109 T.W. Alexander Dr.
MD: B243-01	MD: 243-01
RTP, NC 27711	RTP, NC 27711
<b>Phone:</b> (919)541-0234	<b>Phone:</b> (919)541-2435
<b>Email:</b> Lehmann.David@epa.gov	<b>Email:</b> Greaver.Tara@epa.gov

**III. PERIOD OF PERFORMANCE:** October 7, 2020 to April 6, 2022.

### IV. PURPOSE OF TASK ORDER

The purpose of this task order (TO) is to take stock of currently available methods and frameworks for causal inference and evaluate new advancements for integrating and evaluating scientific evidence to inform causal determinations that are a critical part of Environmental Protection Agency (EPA) reviews of the National Ambient Air Quality Standards (NAAQS). This TO will provide EPA with a consensus report including approaches evaluated, recommendations for frameworks and causal analyses for causal determinations for application in NAAQS reviews, and priority research needs.

### V. BACKGROUND

The Clean Air Act requires the EPA to set National Ambient Air Quality Standards (NAAQS) to protect human health and the environment. To determine if changes are necessary, NAAQS are reviewed by EPA periodically. Integrated Science Assessments (ISAs) form the scientific foundation for NAAQS review and the policy decisions that follow. To promote consistent and transparent evidence evaluation and determination of causality (i.e., defining the cause and effect relationship), EPA developed a framework for causal determination for health (e.g., cancer, noncancer) and welfare (e.g., ecosystem, climate, visibility) effects. EPA's causal determination framework was designed to promote integration of complex evidence streams from multiple scientific disciplines (e.g., exposure science, toxicology, dosimetry, epidemiology, ecology, which involve experimental and observational sciences) to support weight-of-evidence decision-making. Since 2008, when EPA first adopted a weight-of-evidence approach to assessing causality for the

criteria air pollutants<sup>1</sup>, numerous groups (e.g., academic, regulatory and international public health organizations) have applied similar approaches and developed innovative tools, methods and practices. Those innovations offer potential approaches and analytical capabilities for evaluating possible cause and effect relationships between pollutant exposures and health or welfare observations. This TO would provide recommendations for frameworks and causal analyses for EPA to employ in ISAs for causal determinations that inform NAAQS decisions.

## VI. SCOPE OF WORK

The National Academy of Sciences Engineering and Medicine (NASEM) shall provide the EPA with a consensus report including approaches evaluated, recommendations for frameworks and causal analyses for causal determinations, and priority research needs. The committee shall consider key questions including:

- How can a framework be best designed to adequately and appropriately evaluate the available scientific evidence for addressing underlying question(s)/specific aims of a NAAQS review? What are the best approaches to integrate and subsequently document the evidence base that led to the final causality determination?
- How many different causality categories (such as described in the Preamble to the Integrated Science Assessments<sup>2</sup>) are ideal for a framework and are the causal categories mutually exclusive? Should they be? Should the degree of confidence in the causal conclusion be characterized, and if so, how?
- Could emerging tools and approaches, such as triangulation or Directed Acyclic Graphs (DAGs), be used to effectively integrate and synthesize the evidence across studies and scientific disciplines, assess consistency within a discipline, coherence within and across disciplines, and whether there is evidence of biological plausibility?
- Do best practices for assessing causality differ for the assessment of health and welfare effects within a NAAQS review? (Within the context of the Clean Air Act, welfare can involve considerations such as viability of agriculture and ecosystems, effects on climate, protection of materials (e.g., monuments and buildings), and the maintenance of atmospheric visibility.) Can a single causal framework be used effectively to evaluate both? Or, are separate frameworks warranted?
- What additional issues should be considered when assessing causality for an individual criteria pollutant that is part of a complex pollutant mixture in the atmosphere? What specific issues should be considered when assessing potential confounders?
- In the context of the ISA, what are the types and characteristics of evidence most useful for forming a causal determination?

Completion of this task shall include a kick-off teleconference/webinar held in conjunction with EPA and development of a draft report including approaches evaluated, recommendations for frameworks and causal analyses for causal determinations, and priority research needs by a NASEM committee. NASEM shall coordinate informational gathering sessions during committee meetings to receive input from EPA, SMEs, and the public. The resulting report shall be subject to NASEM review procedures<sup>3</sup> and a consensus report shall be produced.

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<sup>1</sup> U.S. EPA (U.S. Environmental Protection Agency). (2008). Integrated Science Assessment for Oxides of Nitrogen – Health Criteria [EPA Report]. (EPA/600/R-08/071) Washington, DC: U.S. Environmental Protection Agency. <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=194645>

<sup>2</sup> U.S. EPA (U.S. Environmental Protection Agency). (2015). Preamble to the Integrated Science Assessments [EPA Report]. (EPA/600/R-15/067). Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment-RTP Division. (<https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=310244>).

<sup>3</sup><https://www.nationalacademies.org/about/our-study-process>

## VII. DESCRIPTION OF TASKS

### Task 1 – Kick-off Teleconference/Webinar and a Project Milestone chart (Contract Level PWS Task Area 2)

NASEM shall convene a teleconference/webinar and provide a milestone chart for this TO.

#### Subtask 1.1 – Kick-off Teleconference/Webinar

NASEM shall convene a Kick-off Teleconference/Webinar with the TOCOR and relevant EPA staff to review the study scope, committee formation, proposed milestones and deliverables, and communication plans. This teleconference/webinar shall occur within seven (7) business days of acceptance of this task order.

#### Subtask 1.2 – Project Milestone Chart

NASEM shall prepare a Project Milestone Chart for the consensus study report provided to the Contract Officer (CO), Contract Level Contracting Officer Representative (CLCOR) and TOCOR within thirty (30) business days of task initiation. This Project Milestone Chart should detail the significant activities for each task/subtask and expected progression of the deliverables.

#### Task 1. Deliverables

Task	SubTask	Deliverable	Schedule
1	1.1	Kick-off Teleconference/Webinar	Within seven (7) business days of acceptance of this TO
1	1.2	Project Milestone Chart	Within thirty (30) business days of acceptance of this TO

### Task 2 – Monthly EPA-NASEM Teleconference and Written Quarterly Progress Report (Contract Level PWS Task Area 2)

NASEM shall convene a monthly Teleconference and provide Quarterly Progress Reports for this TO.

#### Subtask 2.1 – Monthly EPA-NAS Teleconferences

After the Kick-off Teleconference/Webinar, NASEM shall convene monthly teleconferences with the TOCOR and relevant EPA staff to review TO progress.

#### Subtask 2.2 – Quarterly Progress Report

NASEM shall provide written Quarterly Progress Reports to the CO, CLCOR and TOCOR. Each Quarterly Progress Report should detail progress for the tasks/subtasks and any deviations from the Project Milestone Chart.

#### Task 2. Deliverables

Task	SubTask	Deliverable	Schedule
2	2.1	Teleconferences	Monthly beginning after Kick-off Teleconference/Webinar
2	2.2	Progress Reports	Quarterly



### **Task 3 – Establish Expert Committee (Contract Level PWS Task Area 2)**

NASEM shall establish an Expert Committee of up to 20 subject matter experts (SMEs), but not fewer than 12 SMEs. NASEM shall establish the committee using their procedures on committee composition, balance, and conflict of interest (COI). Recommended areas of expertise include assessing the causal nature of relationships between environmental exposures and health or welfare effects. This includes, for example, individuals with expertise in decision analysis, epidemiology, toxicology, biostatistics, experimental sciences, toxicokinetics, exposure-dose-response modeling, atmospheric sciences, ecology, and risk analysis. The NASEM shall provide a provisional list of Expert Committee members for public comment on the NASEM website that includes biographical sketches that indicate their area of expertise within three (3) months of acceptance of this TO.

#### **Task 3. Deliverables**

Task	SubTask	Deliverable	Schedule
3	NA	Provisional list of committee members including biographical sketches, areas of expertise	Within three (3) months of acceptance of this TO

### **Task 4 – Consensus Study Report on Causal Frameworks and Convene Expert Committee Meetings (Contract Level PWS Task Area 2)**

NASEM shall produce a draft Consensus Study Report including approaches evaluated, recommendations for frameworks and causal analyses for causal determinations, and priority research needs. NASEM shall organize Expert Committee Meetings to discuss causal determination frameworks and analyses in order to develop their final recommendations for approach(s) to causal determination for the NAAQS program and shall include an opportunity for public comment.

#### **SubTask 4.1 Drafting and Committee Peer-Review of Consensus Study Report**

**SubTask 4.1.1** The committee shall produce a Draft Consensus Study Report including approaches evaluated, recommendations for frameworks and causal analyses for causal determinations, and priority research needs at least four (4) months prior to expiration of this TO. To produce the Report, NASEM shall coordinate informational gathering sessions during committee meetings to receive input from EPA, SMEs, and the public. Generally, these meetings are expected to be conducted via webinar, but, if necessary and feasible, NASEM shall make arrangements for transportation, lodging and logistical support for committee members, NASEM staff and presenters (if needed) for at least two (2) public information gathering sessions to be held in Research Triangle Park, NC or another location (e.g., Washington, D.C.) and other committee meetings.

**SubTask 4.1.2** Written list of all meeting presenters and discussants and public commenters for meeting(s) shall be provided to the CO, CL COR, and TOCOR within five (5) business days after the conclusion of the meeting(s).

#### **SubTask 4.2 Pre-publication Consensus Study Report on NASEM Website**

Once finalized and approved by the NASEM, the Consensus Study Report shall be released as a pre-publication Adobe PDF download to the public via the NASEM website at least four (4) months prior to expiration of this TO. The TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

#### **SubTask 4.3 Final Consensus Study Report on NASEM Website and in Print**

The final edited and one hundred (100) bound versions of the Consensus Study Report shall be provided to the CO, CL COR, and TOCOR as well as be available in print and Adobe PDF download via the NASEM website prior to expiration of this TO. The TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

#### **Task 4. Deliverables**

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
4	4.1.1	Coordinate informational gathering sessions for committee members to receive input from EPA, SMEs, and the public	At least four (4) months prior to expiration of this TO
4	4.1.2	Written list of all meeting presenters and discussants for meeting(s)	Five (5) business days after conclusion of meeting(s)
4	4.2	Prepublication Consensus Study Report	At least four (4) months prior to expiration of this TO
4	4.3	Final Consensus Study Report available on NASEM website in Adobe PDF and in print along with 100 bound versions provided to TOCOR	Prior to expiration of this TO

#### **VIII. ACCEPTANCE CRITERIA**

The Contractor shall prepare high quality products and that are reproducible and transparent. Figures submitted shall be of high quality similar to presentations developed for national scientific forums and should be formatted as jpeg or TIFF files. Deliverables shall be edited for grammar, spelling, and logic flow, as well as, technical accuracy, completeness, timeliness, grammatically correct, free of typographical errors, and conformance with the specific task, charge and expertise and deliverables of this Performance Work Statement. The technical information shall be reasonable complete and presented in a logical, readable manner. Text deliverables shall be provided in Microsoft Word 2016 and Adobe Acrobat. Deliverables will be accepted upon review and approval by the TOCOR.

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES	
						1 3	
2. AMENDMENT/MODIFICATION NO.		3. EFFECTIVE DATE		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
P00001		See Block 16C					
6. ISSUED BY		CODE		7. ADMINISTERED BY (If other than Item 6)		CODE	
CAD							
CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001							
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(x)			
National Academy of Sciences Attn: JAMES BURKE 500 FIFTH STREET NW WASHINGTON DC 200012736				9A. AMENDMENT OF SOLICITATION NO.			
				9B. DATED (SEE ITEM 11)			
				x			
				10A. MODIFICATION OF CONTRACT/ORDER NO.			
				68HERC19D0011			
				68HERC21F0010			
				10B. DATED (SEE ITEM 13)			
				10/07/2020			
CODE 041964057		FACILITY CODE					
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by letter or electronic communication, provided each letter or electronic communication makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							
See Schedule							
<b>13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>							
CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.						
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation data, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).						
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:						
	D. OTHER (Specify type of modification and authority)						
<b>E. IMPORTANT:</b> Contractor <input checked="" type="checkbox"/> is not <input type="checkbox"/> is required to sign this document and return _____ copies to the issuing office.							
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)							
DUNS Number: 041964057							
Decommit funding in the amount of \$17,205.47 for a grand total of \$782,645.00							
New task order request (CPHEA/HEEAD) entitled "Assessing Causality from a Multidisciplinary Evidence Base for National Ambient Air Quality Standards" under NAS Contract #68HERC19D0011							
NAS Contract: 68HERC19D0011							
TO No.: TBD							
TOCOR: David Lehmann							
ALTOCOR: Tara Greaver							
CO: Mark Cranley							
CS: William Yates							
Continued ...							
Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.							
15A. NAME AND TITLE OF SIGNER (Type or print)				16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)			
				William M. Yates			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
				 ELECTRONIC SIGNATURE (Signature of Contracting Officer)		10/23/2020	
(Signature of person authorized to sign)							

<b>CONTINUATION SHEET</b>	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
	68HERC19D0011/68HERC21F0010/P00001	2	3

NAME OF OFFEROR OR CONTRACTOR  
National Academy of Sciences

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>Acquisition Division: CAD</p> <p>Exception code (5170 Conference Process): ME262600</p> <p>CL COR: Glennis Reslock</p> <p>ALT CL COR: Jorge Rangel</p> <p>NO IT Codes or FITARA necessary</p> <p>TOCOR: DAVID LEHMANN</p> <p>LIST OF CHANGES:</p> <p>Reason for Modification: The purpose of this modification will be to incorporate the following changes requested in the "SCOPE OF WORK."</p> <p>An ad hoc committee of the National Academies of Sciences, Engineering, and Medicine will consider frameworks for integrating, documenting, and evaluating scientific evidence to assess causality of health and welfare effects by air pollutants as part of National Ambient Air Quality Standards (NAAQS) reviews conducted by the Environmental Protection Agency (EPA). The committee will</p> <p>¿ Describe and assess available methods and frameworks for inferring causality of health or welfare effects within a NAAQS review. Based on those assessments, suggest how the number and description of causality categories in the hierarchy to classify the weight of evidence for causation (i.e., causal determinations) might be refined for more effective use in EPA's Integrated Science Assessments (ISAs) that are prepared for NAAQS reviews. Indicate if those categories are necessarily mutually exclusive in making causal determinations from a body of evidence, and, if appropriate, identify methods to characterize the degree of confidence in a causal determination.</p> <p>¿ Assess new advances for integrating and evaluating scientific evidence to inform causal determinations critical to EPA's NAAQS reviews. Suggest emerging tools and approaches that might be used in the near and longer-term to integrate and synthesize evidence across studies and scientific disciplines. In addition, consider whether those tools and approaches might be used to assess consistency among independent studies within a discipline, coherence across different lines of evidence, and evidence of biological plausibility.</p> <p>Continued ...</p>				

<b>CONTINUATION SHEET</b>	REFERENCE NO. OF DOCUMENT BEING CONTINUED	PAGE	OF
	68HERC19D0011/68HERC21F0010/P00001	3	3

NAME OF OFFEROR OR CONTRACTOR  
National Academy of Sciences

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	<p>Identify additional issues concerning potential confounders (i.e., other factors associated with both the pollutant and effect) that EPA might consider when assessing causality for an individual criteria pollutant that is part of an atmospheric complex pollutant mixture. The committee's report will describe, in the context of ISAs, the types and characteristics of evidence most useful for forming a causal determination, and whether a single framework and practices related to it for assessing causality may be applied to both health and welfare effects. The report will make recommendations related to the development and use of ISA frameworks for causal determinations and describe priority research needed to improve those frameworks in the future. Completion of this task shall include a kick-off teleconference/webinar held in conjunction with EPA and development of a draft report including approaches evaluated, recommendations for frameworks and causal analyses for causal determinations, and priority research needs by a NASEM committee. NASEM shall coordinate informational gathering sessions during committee meetings to receive input from EPA, SMEs, and the public. The resulting report shall be subject to NASEM review procedures<sup>3</sup> and a consensus report shall be produced.</p> <p>Payment:</p> <p>RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711</p> <p>Period of Performance: 10/07/2020 to 04/06/2022</p>				

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1. CONTRACT ID CODE		PAGE OF PAGES	
						1      2	
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P00002		See Block 16C		PR-ORD-21-01003			
6. ISSUED BY		CODE		7. ADMINISTERED BY (If other than Item 6)		CODE	
CAD							
US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001							
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				William M. Yates			
15B. CONTRACTOR/OFFEROR		15C. DATE SIGNED		16B. UNITED STATES OF AMERICA		16C. DATE SIGNED	
				 (Signature of Contracting Officer)		ELECTRONIC SIGNATURE 04/15/2021	
(Signature of person authorized to sign)							

<b>CONTINUATION SHEET</b>	REFERENCE NO. OF DOCUMENT BEING CONTINUED 68HERC19D0011/68HERC21F0010/P00002	PAGE	OF
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NAME OF OFFEROR OR CONTRACTOR  
National Academy of Sciences

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
9999	<p>Acquisition Division: CAD Exception code (5170 Conference Process): ME262600 CL COR: Glennis Reslock ALT CL COR: Jorge Rangel NO IT Codes or FITARA necessary</p> <p>TOCOR: DAVID LEHMANN LIST OF CHANGES: Reason for Modification: The purpose of this administrative mod will be to extend the period of performance and to add the revised PWS for distribution to the contractor. All other conditions remain the same.</p> <p>Period Of Performance End Date changed from 06-APR-22 to 31-AUG-22</p> <p>CHANGES FOR LINE ITEM NUMBER: 1 End Date changed from 30-NOV-21 to 31-AUG-22</p> <p>Payment: RTP Finance Center US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts Durham NC 27711 Period of Performance: 10/07/2020 to 08/31/2022</p> <p>REQUEST FOR ZERO DOLLAR ACTION</p> <p>Accounting Info: 00-00-ZERO-DOLLAR-ADMIN-REQ BFY: 00 EFY: 00 Fund: ZERO Budget Org: DOLLAR Program (PRC): ADMIN Budget (BOC): REQ Funding Flag: Complete Funded: \$0.00</p>				0.00

## PERFORMANCE WORK STATEMENT

National Academy of Sciences (NAS)

Contract #68HERC19D0011

PR-ORD-20-01985/

Task Order #68HERC21F0010

**I. TITLE:** Assessing Causality from a Multidisciplinary Evidence Base for National Ambient Air Quality Standards

**EAS SHORT TITLE:** NASEM Consensus Report on Assessing Causality

### II. TASK ORDER CONTRACTING OFFICER REPRESENTATIVE(S):

<b>Task Order Contracting Officer Representative (TOCOR)</b> <b>Name:</b> David Lehmann <b>Office:</b> ORD/CPHEA/HEEAD/IHAB U.S. EPA 109 T.W. Alexander Dr. MD: B243-01 RTP, NC 27711 <b>Phone:</b> (919)541-0234 <b>Email:</b> Lehmann.David@epa.gov	<b>Alternate Task Order Contracting Officer Representative (Alt. TOCOR)</b> <b>Name:</b> Tara Greaver <b>Office:</b> ORD/CPHEA/HEEAD/IEAB U.S. EPA 109 T.W. Alexander Dr. MD: 243-01 RTP, NC 27711 <b>Phone:</b> (919)541-2435 <b>Email:</b> Greaver.Tara@epa.gov
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**III. PERIOD OF PERFORMANCE:** October 7, 2020 to ~~April 6, 2022~~ August 31, 2022

### IV. PURPOSE OF TASK ORDER

The purpose of this task order (TO) is to take stock of currently available methods and frameworks for causal inference and evaluate new advancements for integrating and evaluating scientific evidence to inform causal determinations that are a critical part of Environmental Protection Agency (EPA) reviews of the National Ambient Air Quality Standards (NAAQS). This TO will provide EPA with a consensus report including approaches evaluated, recommendations for frameworks and causal analyses for causal determinations for application in NAAQS reviews, and priority research needs.

### V. BACKGROUND

The Clean Air Act requires the EPA to set National Ambient Air Quality Standards (NAAQS) to protect human health and the environment. To determine if changes are necessary, NAAQS are reviewed by EPA periodically. Integrated Science Assessments (ISAs) form the scientific foundation for NAAQS review and the policy decisions that follow. To promote consistent and transparent evidence evaluation and determination of causality (i.e., defining the cause and effect relationship), EPA developed a framework for causal determination for health (e.g., cancer, noncancer) and welfare (e.g., ecosystem, climate, visibility) effects. EPA's causal determination framework was designed to promote integration of complex evidence streams from multiple scientific disciplines (e.g., exposure science, toxicology, dosimetry, epidemiology, ecology, which involve experimental and observational sciences) to support weight-of-evidence decision-making. Since 2008, when EPA first adopted a weight-of-evidence approach to assessing causality for the



criteria air pollutants<sup>1</sup>, numerous groups (e.g., academic, regulatory and international public health organizations) have applied similar approaches and developed innovative tools, methods and practices. Those innovations offer potential approaches and analytical capabilities for evaluating possible cause and effect relationships between pollutant exposures and health or welfare observations. This TO would provide recommendations for frameworks and causal analyses for EPA to employ in ISAs for causal determinations that inform NAAQS decisions.

## VI. SCOPE OF WORK

An ad hoc committee of the National Academies of Sciences, Engineering, and Medicine will consider frameworks for integrating, documenting, and evaluating scientific evidence to assess causality of health and welfare effects by air pollutants as part of National Ambient Air Quality Standards (NAAQS) reviews conducted by the Environmental Protection Agency (EPA). The committee will

- Describe and assess available methods and frameworks for inferring causality of health or welfare effects within a NAAQS review. Based on those assessments, suggest how the number and description of causality categories in the hierarchy to classify the weight of evidence for causation (i.e., causal determinations) might be refined for more effective use in EPA's Integrated Science Assessments (ISAs) that are prepared for NAAQS reviews. Indicate if those categories are necessarily mutually exclusive in making causal determinations from a body of evidence, and, if appropriate, identify methods to characterize the degree of confidence in a causal determination.
- Assess new advances for integrating and evaluating scientific evidence to inform causal determinations critical to EPA's NAAQS reviews. Suggest emerging tools and approaches that might be used in the near and longer-term to integrate and synthesize evidence across studies and scientific disciplines. In addition, consider whether those tools and approaches might be used to assess consistency among independent studies within a discipline, coherence across different lines of evidence, and evidence of biological plausibility.
- Identify additional issues concerning potential confounders (i.e., other factors associated with both the pollutant and effect) that EPA might consider when assessing causality for an individual criteria pollutant that is part of an atmospheric complex pollutant mixture.

The committee's report will describe, in the context of ISAs, the types and characteristics of evidence most useful for forming a causal determination, and whether a single framework and practices related to it for assessing causality may be applied to both health and welfare effects. The report will make recommendations related to the development and use of ISA frameworks for causal determinations and describe priority research needed to improve those frameworks in the future.

Completion of this task shall include a kick-off teleconference/webinar held in conjunction with EPA and development of a draft report including approaches evaluated, recommendations for frameworks and causal analyses for causal determinations, and priority research needs by a NASEM committee. NASEM shall coordinate informational gathering sessions during committee meetings to receive input from EPA, SMEs, and the public. The resulting report shall be subject to NASEM review procedures<sup>3</sup> and a consensus report shall be produced.

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<sup>1</sup> U.S. EPA (U.S. Environmental Protection Agency). (2008). Integrated Science Assessment for Oxides of Nitrogen – Health Criteria [EPA Report]. (EPA/600/R-08/071) Washington, DC: U.S. Environmental Protection Agency. <https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=194645>

<sup>2</sup> U.S. EPA (U.S. Environmental Protection Agency). (2015). Preamble to the Integrated Science Assessments [EPA Report]. (EPA/600/R-15/067). Research Triangle Park, NC: U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment-RTP Division. (<https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=310244>).

<sup>3</sup> <https://www.nationalacademies.org/about/our-study-process>

## DESCRIPTION OF TASKS

### **Task 1 – Kick-off Teleconference/Webinar and a Project Milestone chart (Contract Level PWS Task Area 2)**

NASEM shall convene a teleconference/webinar and provide a milestone chart for this TO.

#### **Subtask 1.1 – Kick-off Teleconference/Webinar**

NASEM shall convene a Kick-off Teleconference/Webinar with the TOCOR and relevant EPA staff to review the study scope, committee formation, proposed milestones and deliverables, and communication plans. This teleconference/webinar shall occur within seven (7) business days of acceptance of this task order.

#### **Subtask 1.2 – Project Milestone Chart**

NASEM shall prepare a Project Milestone Chart for the consensus study report provided to the Contract Officer (CO), Contract Level Contracting Officer Representative (CLCOR) and TOCOR within thirty (30) business days of task initiation. This Project Milestone Chart should detail the significant activities for each task/subtask and expected progression of the deliverables.

### **Task 1. Deliverables**

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
1	1.1	Kick-off Teleconference/Webinar	Within seven (7) business days of acceptance of this TO
1	1.2	Project Milestone Chart	Within thirty (30) business days of acceptance of this TO

### **Task 2 – Monthly EPA-NASEM Teleconference and Written Quarterly Progress Report (Contract Level PWS Task Area 2)**

NASEM shall convene a monthly Teleconference and provide Quarterly Progress Reports for this TO.

#### **Subtask 2.1 – Monthly EPA-NAS Teleconferences**

After the Kick-off Teleconference/Webinar, NASEM shall convene monthly teleconferences with the TOCOR and relevant EPA staff to review TO progress.

#### **Subtask 2.2 – Quarterly Progress Report**

NASEM shall provide written Quarterly Progress Reports to the CO, CLCOR and TOCOR. Each Quarterly Progress Report should detail progress for the tasks/subtasks and any deviations from the Project Milestone Chart.

### **Task 2. Deliverables**

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
2	2.1	Teleconferences	Monthly beginning after Kick-off Teleconference/Webinar
2	2.2	Progress Reports	Quarterly

### **Task 3 – Establish Expert Committee (Contract Level PWS Task Area 2)**

NASEM shall establish an Expert Committee of up to 20 subject matter experts (SMEs), but not fewer than 12 SMEs. NASEM shall establish the committee using their procedures on committee composition, balance, and conflict of interest (COI). Recommended areas of expertise include assessing the causal nature of relationships between environmental exposures and health or welfare effects. This may include, for example, individuals with expertise in decision analysis, epidemiology, toxicology, biostatistics, experimental sciences, toxicokinetics, exposure-dose-response modeling, atmospheric sciences, ecology, and risk analysis. The NASEM shall provide a provisional list of Expert Committee members for public comment on the NASEM website that includes biographical sketches that indicate their area of expertise within three (3) months of acceptance of this TO.

#### **Task 3. Deliverables**

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
3	NA	Provisional list of committee members including biographical sketches, areas of expertise	Within three (3) months of acceptance of this TO

### **Task 4 – Consensus Study Report on Causal Frameworks and Convene Expert Committee Meetings (Contract Level PWS Task Area 2)**

NASEM shall produce a draft Consensus Study Report including approaches evaluated, recommendations for frameworks and causal analyses for causal determinations, and priority research needs. NASEM shall organize Expert Committee Meetings to discuss causal determination frameworks and analyses in order to develop their final recommendations for approach(s) to causal determination for the NAAQS program and shall include an opportunity for public comment.

#### **SubTask 4.1 Drafting and Committee Peer-Review of Consensus Study Report**

**SubTask 4.1.1** The committee shall produce a Consensus Study Report including approaches evaluated, recommendations for frameworks and causal analyses for causal determinations, and priority research needs at least four (4) months prior to expiration of this TO. To produce the Report, NASEM shall coordinate informational gathering sessions during committee meetings to receive input from EPA, SMEs, and the public. Generally, these meetings are expected to be conducted via webinar, but, if necessary and feasible, NASEM shall make arrangements for transportation, lodging and logistical support for committee members, NASEM staff and presenters (if needed) for at least two (2) public information gathering sessions to be held in Research Triangle Park, NC or another location (e.g., Washington, D.C.) and other committee meetings.

**SubTask 4.1.2** Written list of all meeting presenters and discussants and public commenters for meeting(s) shall be provided to the CO, CL COR, and TOCOR within five (5) business days after the conclusion of the meeting(s).

### **SubTask 4.2 Pre-publication Consensus Study Report on NASEM Website**

Once finalized and approved by the NASEM, the Consensus Study Report shall be released as a pre-publication Adobe PDF download to the public via the NASEM website at least four (4) months prior to expiration of this TO. The TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

### **SubTask 4.3 Final Consensus Study Report on NASEM Website and in Print**

The final edited and one hundred (100) bound versions of the Consensus Study Report shall be provided to the CO, CL COR, and TOCOR as well as be available in print and Adobe PDF download via the NASEM website prior to expiration of this TO. The TOCOR shall be notified via email of the location of public websites or similar means used to disseminate information to the public during the course of this task, as well as relevant changes to them.

### **Task 4. Deliverables**

<b>Task</b>	<b>SubTask</b>	<b>Deliverable</b>	<b>Schedule</b>
4	4.1.1	Coordinate informational gathering sessions for committee members to receive input from EPA, SMEs, and the public	At least four (4) months prior to expiration of this TO
4	4.1.2	Written list of all meeting presenters and discussants for meeting(s)	Five (5) business days after conclusion of meeting(s)
4	4.2	Prepublication Consensus Study Report	At least four (4) months prior to expiration of this TO
4	4.3	Final Consensus Study Report available on NASEM website in Adobe PDF and in print along with 100 bound versions provided to TOCOR	Prior to expiration of this TO

## **VII. ACCEPTANCE CRITERIA**

The Contractor shall prepare high quality products and that are reproducible and transparent. Figures submitted shall be of high quality similar to presentations developed for national scientific forums and should be formatted as jpeg or TIFF files. Deliverables shall be edited for grammar, spelling, and logic flow, as well as, technical accuracy, completeness, timeliness, grammatically correct, free of typographical errors, and conformance with the specific task, charge and expertise and deliverables of this Performance Work Statement. The technical information shall be reasonable complete and presented in a logical, readable manner. Text deliverables shall be provided in Microsoft Word 2016 and Adobe Acrobat. Deliverables will be accepted upon review and approval by the TOCOR.